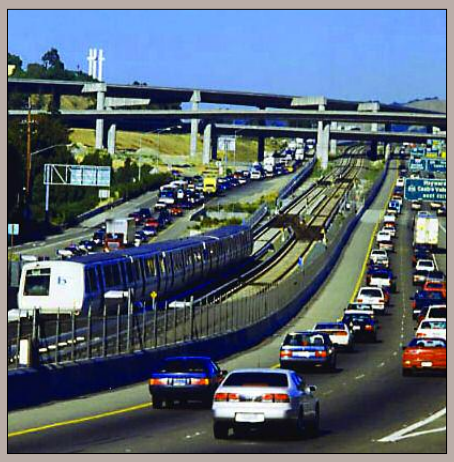
Bay Area Transportation State of the System 2004

METROPOLITAN TRANSPORTATION COMMISSION and CALTRANS DISTRICT 4



Bay Area Transportation:
State of the System
2004

Prepared by
Metropolitan Transportation Commission and Caltrans District 4

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The Transportation System in Brief

In 2003, the Bay Area's population crept ever closer to the 7 million mark. These Bay Area residents took more than 21 million trips on an average weekday, or about three trips per person each day in order to get to work, school, shopping or other activities. More than 84 percent of all trips are by automobile. Walking and biking are the next most common way to get around (10 percent of all trips); naturally, trips made by walking and biking tend to be shorter distances. About six percent of all trips are by public transit, the majority of which occur during commute hours. Over the course of a year, close to 30 billion miles are logged on the region's freeways, and over 475 million transit trips are taken (see table below).

Bay Area residents' appetite for travel leveled off in 2003, reflecting the region's continued economic slump, marked by a three percent decrease in jobs and a sluggish one percent increase in population between 2002 and 2003. Travelers drove about the same number of miles on Bay Area freeways in 2003 as in 2002. In the biggest one-year decline since at least 1990, the number of transit trips decreased seven percent. At just over 478 million trips a year, transit ridership was lower in fiscal year (FY) 2002-03 than in 1999 and far below its peak of 533 million in FY 2000-01.

While the regional growth has slowed in the near term, long-term forecasts assume a rebound. By 2030, the regions population is expected to grow to 8.7 million people, and employment will expand to 5.2 million jobs. MTC predicts the number of trips will grow to 28.5 million each day, increasing wear-and-tear and making other demands on Bay Area roads and transit. MTC is in the process of revising the region's long-range transportation investment strategy to address these growing needs. More than 80 percent of the $113 billion in revenues expected over the 25-year period would be devoted to basic maintenance needs and ongoing operations. Even that level of investment is not sufficient to fully address the projected maintenance needs. To meet increased travel demands, the Draft Transportation 2030 Plan calls for four percent of the funds to be spent on low-cost operational improvements that squeeze more efficiency out of the transportation system, and the remaining 15 percent on strategic expansion of the region's transit and roadway network.

Population, Employment and Travel in the Bay Area, 1999 – 2003

	In Thousands					Percent Change	
	1999	2000	2001	2002	2003	2002–2003	1999–2003
Residents	6,703	6,818	6,917	6,956	6,994	+1%	+4%
Jobs	3,388	3,541	3,506	3,322	3,218	–3%	–5%
Annual Vehicle Miles Driven on Freeways	27,657,600	28,654,600	28,996,200	29,190,800	29,278,100	0%	+6%
Annual Transit Trips	481,985	506,107	533,038	515,556	478,587	–7%	–1%

Sources: California Employment Development Department, California Department of Finance, Caltrans, Metropolitan Transportation Commission

Transit trips data is compiled by fiscal year, e.g., data listed for 1999 represents July 1, 1998 – June 30, 1999.

Transit ridership data is provisional. Vehicle miles driven on freeways data for 2003 is provisional.

The Freeway System and State Highway System

The Bay Area's 620-mile freeway system is the workhorse of the transportation network. In 2003, vehicles traveled more than 28 billion miles on Bay Area freeways — about 60 percent of all miles driven by trucks and passenger vehicles in the region. The freeway system includes 319 miles of "diamond lanes" that allow people in carpools, vanpools and buses to bypass congestion during peak commute hours. In 2003, carpool lanes carried 16 percent of the vehicles and 31 percent of the people in the peak commute hour on freeway segments with carpool lanes.

The majority of the region's freeway system is equipped with high-tech devices designed to increase freeway efficiency and better serve travelers. More than 450 miles of freeway are equipped with roadway sensors and video cameras that can detect slow-downs. Travelers can check for freeway delays throughout the region and get point-to-point driving times on 250 miles of the freeway system by calling 511 or visiting the www.511.org Web site. In addition, the roving tow trucks of the Freeway Service Patrol cruise along some 460 miles of the most congested freeways and expressways, helping motorists with car trouble, removing debris or quickly clearing accidents.

The state of California owns and maintains 800 miles of state highways in addition to the freeway system. Most of these other state-owned roadways are the major thoroughfares linking communities in the outer suburban and rural parts of the Bay Area. These roads indicate State Routes 12, 29 and 37 in the North Bay, State Route 4 in eastern Contra Costa County, State Route 1 along the San Mateo County coastline, and State Route 152 in southern Santa Clara County. A small number of state highways run through the heart of urban areas and are indistinguishable to most travelers from locally owned urban roadways. Such roads include El Camino Real from San Jose to San Francisco (State Route 82) and San Pablo Avenue (State Route 123) from Oakland to Hercules in the East Bay.

Toll Bridges

Seven state-owned toll bridges and the Golden Gate Bridge grace the San Francisco Bay. Each year, over 134 million vehicles cross the seven state-owned toll bridges in the Bay Area, generating approximately $280 million in total toll revenues. Since June 2000, motorists on the Golden Gate Bridge have been able to use the FasTrak™ electronic toll collection system to pay tolls. Motorists on the state-owned bridges have been able to use FasTrak™ since December 2000. In 2003, 49 percent of all tolled transactions on the Golden Gate Bridge were paid using FasTrak™. By comparison, 23 percent of all tolled transactions on state-owned bridge were paid using FasTrak™.

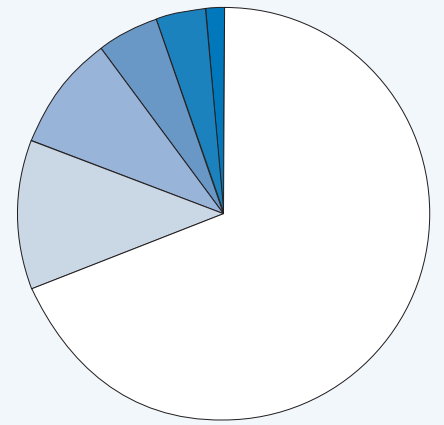
The Local Roadway Network

Bay Area cities and counties own and maintain more than 19,000 centerline miles of local roadways, which must balance the needs of bicyclists and pedestrians as well as those traveling by buses and private automobiles. About half of the region's more than 7,000 traffic signals on the region's local roadway system are synchronized to reduce the amount of time people spend waiting at red lights during weekday peak travel periods. In some major bus corridors, signals are programmed to give preferential treatment to buses that are running late so they can get back on schedule.

The Public Transit System

In fiscal year 2002-03, some two dozen Bay Area transit operators provided 194 million vehicle miles of service and carried more than 478 million passengers. Buses provide just over half of all service miles and carry two-thirds of all passengers. BART, commuter rail, light rail, ferries, and door-to-door vans and taxis that serve elderly and

How Bay Area Workers Commuted, 2003



Drove Alone	69%
Carpooled	12%
Public Transportation	9%
Worked at Home	5%
Walked or Bicycled	4%
Other Means	1%

Source: 2003 American Community Survey (U.S. Census Bureau)

"Other Means" includes motorcycle

disabled riders (called paratransit service) carry the remaining third. More than 16 major intermodal terminals are the focus of the regional Transit Connectivity Project intended to improve the ease and efficiency of transferring between transit systems.

The region's operators have long been recognized nationally as leaders in making the transit system accessible to persons with disabilities. Today, more than 90 percent of the region's buses and 95 percent of transit centers and rail stations are accessible to persons using wheelchairs.

Pedestrian and Bicycle Facilities

The ability to get around safely on foot or by bicycle is increasingly recognized as an essential factor in a neighborhood's quality of life. Also, there is a growing recognition that walking and cycling can help to promote healthier lifestyles and combat health conditions associated with decreasing levels of physical activity, such as obesity and diabetes.

The network used by bicyclists and pedestrians is ubiquitous. It includes the entire local roadway system, as well as sidewalks and some dedicated pathways. In addition, most buses and trains now accommodate bicycles. Bicycles and pedestrians are excluded from freeways for safety purposes, but access is provided on Bay Area bridges, either through bicycle lanes, special vans or transit service connections. Still, there are numerous locations without sidewalks or bicycle lanes; in such cases, bicyclists and pedestrians must share a lane with traffic. The safety of pedestrians and cyclists is a topic of increasing concern, and programs such as Safe Routes to School and other safety initiatives are being deployed by jurisdictions around the region.

The 2001 Regional Transportation Plan proposed a 1,900-mile network of regionally significant bicycle facilities; the plan also identified gaps in city- and county-level bicycle plans and recommended specific improvements to fill these gaps. Approximately 35 percent of the regional network exists today. Regionwide, bicycling accounts for one percent of all trips, and walking accounts for about nine percent. However, for trips to school, bicycling accounts for about four percent of trips and walking for more than 20 percent.

Airports and Seaports

The region's airports and seaports are gateways to the rest of the country and the world for tourism, business travel and trade. Most residents are familiar with the major international airports in San Francisco, Oakland and San Jose. Less well known are the region's five major seaports and their cargo specialties: Oakland (container cargo); San Francisco and Redwood City (construction materials); Benicia (automobiles and petroleum coke); and Richmond (gasoline and oil). Handling over 53 million passengers and 1.9 million containers a year, the Bay Area's airports and seaports also generate considerable ground traffic in surrounding areas.

Mobility: Getting Around the Bay Area

Mobility can be defined as the ease of getting around. This section includes statistics describing how easy (or difficult) it was to get around the Bay Area on freeways, local roadways and transit, as well as statistics on the number of vehicles and people that used each of these systems in 2003.

Schedule adherence (on-time performance) is used to describe ease of travel on transit. To track transit usage, the report includes annual ridership statistics reported by transit operators to the Federal Transit Administration.

Traffic congestion and travel time are used to describe ease of travel on freeways. The report presents separate statistics on travel time savings offered by carpool lanes and the number of vehicles using carpool lanes.

Measuring the ease of travel on the local road network is more challenging because the network is so extensive and is managed by more than 100 different cities and nine counties. Most jurisdictions use an indicator of congestion called "level of service," which corresponds roughly with traffic congestion. This report does not include traffic volumes on local roadways because this information is not consistently monitored or reported. We hope to fill this gap in future reports.

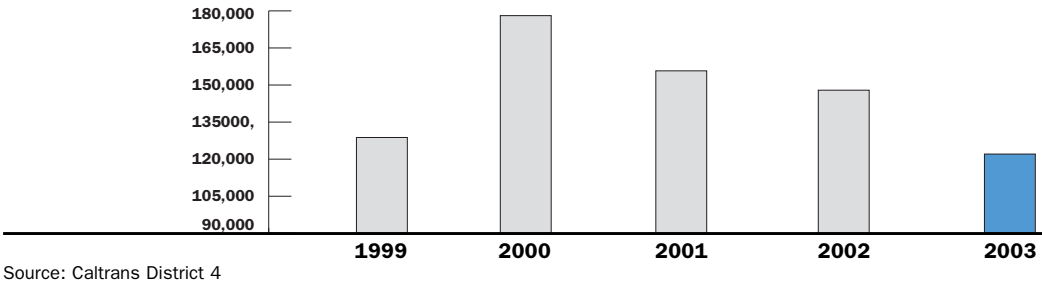
In previous years, the *State of the System* report has included data on the number of trucks at selected locations on the highway system. The *2004 State of the System* report does not include a section on truck vehicle volumes because truck volume data, which is updated at most locations on a rotating six year basis, has not been updated on major Bay Area highways since the last published State of the System report.

Bay Area Freeways Record Third Straight Year of Reduced Congestion in 2003

- Traffic on Bay Area freeways flowed more freely in 2003 than in any year since 1998.
- In 2003, delay decreased 18 percent, following a 5 percent dip in 2002 and a 12 percent dip in 2001.
- There has been a steady shift in the concentration of congestion, with the South Bay and Peninsula accounting for an increasingly smaller share of all regional congestion.
- These data represent where we were in 2003; not necessarily where we are today. Anecdotal evidence suggests congestion increased in 2004.

Daily Freeway Delay by Bay Area County, 1999 – 2003

		Daily (Weekday) Vehicle Hours of Delay					Percent Change	
	Freeway Miles (2003)	1999	2000	2001	2002	2003	2002–2003	1999–2003
Alameda	138	44,300	61,700	65,600	61,300	46,300	–24%	+5%
Santa Clara	137	36,900	51,700	37,000	31,600	24,300	–23%	–34%
Contra Costa	87	14,500	16,200	18,800	19,400	18,700	–4%	+29%
San Francisco	19	9,100	12,500	8,500	11,400	11,200	–2%	+23%
San Mateo	73	11,500	18,100	10,900	7,700	7,300	–5%	–37%
Marin	28	7,700	9,900	7,900	8,400	6,200	–26%	–19%
Sonoma	55	3,600	4,300	4,400	4,400	5,200	+18%	+44%
Solano	79	700	3,200	2,400	3,700	2,600	–30%	+271%
Napa	5	0	0	0	0	0	0%	0%
Bay Area	**621**	**128,300**	**177,600**	**155,500**	**147,900**	**121,800**	**–18%**	**–5%**



Source: Caltrans District 4

Freeway Congestion (continued)

Top 10 Bay Area Congestion Hot Spots

- The morning commute to the Bay Bridge on I-80 remained the region's most notorious congestion location in 2003.
- Three afternoon commutes moved into the top 10 for the first time: southbound U.S. 101 from University Avenue to Shoreline Boulevard; eastbound State Route 24 from I-580 to the Caldecott Tunnel; eastbound I-580 east of Livermore to Greenville Road.
- Three morning commutes to the Silicon Valley fell out of the top 10 in 2003, reflecting the economic chill in the South Bay as well as new freeway projects.

Bay Area Freeway Locations With Most Delay During Commute Hours, 2003

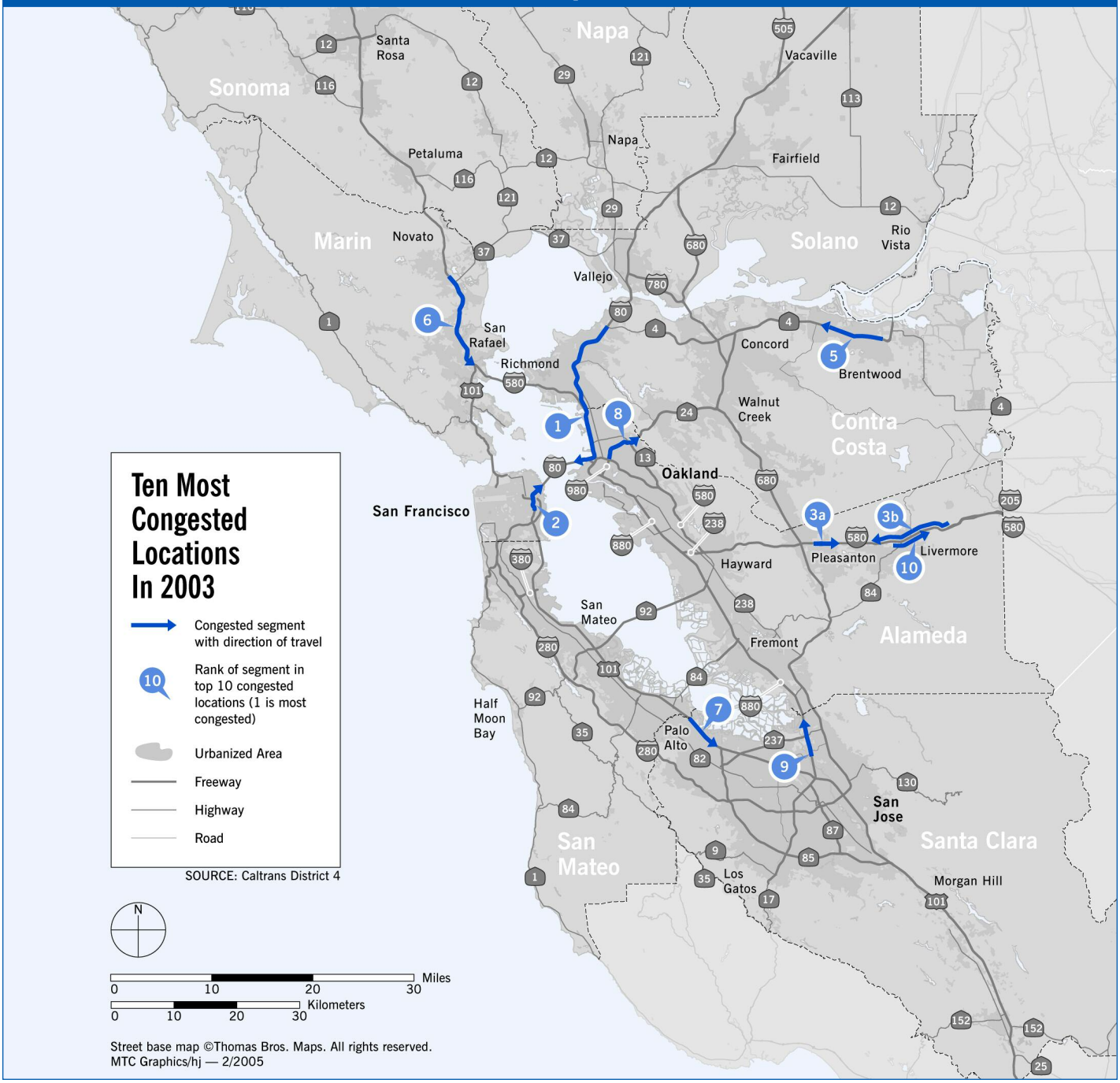
2003 Rank	Location	2003 Daily (Weekday) Vehicle Hours of Delay	2002 Rank	2001 Rank	2000 Rank	1999 Rank
1	**Interstate 80, westbound, a.m. —** Alameda/Contra Costa County *State Route 4 to Bay Bridge metering lights*	6,570	1	1	1	1
2	**Interstate 80, eastbound and U.S. 101, northbound, p.m. —** San Francisco *Cesar Chavez Street to west end of Bay Bridge*	4,520	4	4	5	4
3a	**Interstate 580, eastbound, p.m. —** Alameda County *Hopyard Road to west of El Charro Road*	4,320	3	5	13	13
3b	**Interstate 580, westbound, a.m. —** Alameda County *North Flynn Road to Airway Boulevard*	4,320	5	12	14	17
5	**Route 4, westbound, a.m. —** Contra Costa County *Hillcrest Avenue to Loveridge Road*	3,670	7	15	32	26
6	**U.S. 101, southbound, a.m. —** Marin County *South of Rowland Boulevard to Interstate 580*	2,980	9	8	6	7
7	**U.S. 101, southbound, p.m. —** San Mateo/Santa Clara County *University Avenue to Shoreline Boulevard*	2,490	28	44	18	26
8	**Route 24, eastbound, p.m. —** Alameda County *Interstate 580 to Caldecott Tunnel*	2,470	37	23	22	16
9	**Interstate 880, northbound, p.m. —** Santa Clara County *Montague Expressway to north of Dixon Landing Road*	2,450	6	7	12	5
10	**Interstate 580, eastbound, p.m. —** Alameda County *East of Livermore Avenue to east of Greenville Road*	2,370	105	36	69	*

Source: Caltrans District 4

Rankings are for routes in which continuous stop-and-go conditions occur with few, if any, breaks in the queue. Thus, corridors that have equally severe delays, but where congestion is broken into several segments, may rank lower in this type of congestion listing.

*No delay occurred on this segment.

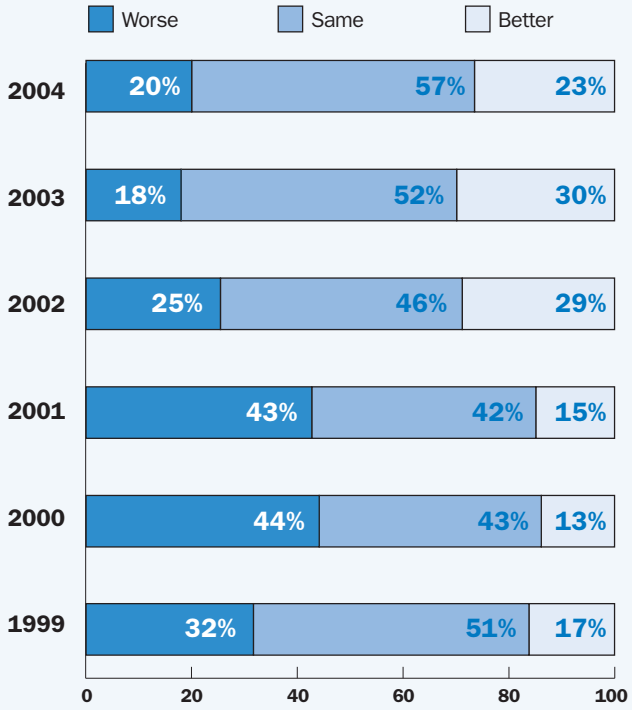
Gridlock's Top 10, 2003



A Closer Look at Commuting

- Commuter experiences confirm trends shown in freeway congestion data.
- In 2003, when congestion was lower than in any year since 1998, Bay Area workers rated their commutes more favorably than in other recent years. A full 30 percent of those surveyed said their commute was better than in 2002 while just 18 percent said their commute was worse.
- Suggesting that 2003 may have represented a low point in congestion – at least in recent times, commuters responded somewhat less favorably in 2004. Those who reported their commute was better than in the prior year fell to 23 percent, and those reporting a worse commute rose to 20 percent.
- The 2004 results are still a long cry from the unfavorable ratings in 2000 when only 13 percent of commuters said their commute was better than the prior year, and 44 percent said their commute was worse.

Percent of Commuters Who Claim Their Commute Is Better or Worse Than Last Year



Source: RIDES for Bay Area Commuters, Inc.

Congested Freeway Locations – Morning and Evening Commutes, 2003

Morning Peak-Period Congested Locations, 2003 (ordered by county and route)

COUNTY	ROUTE	DIR.	DELAY (vehicle hours)	DURATION (AM)	LOCATION
ALA	24	E	590	6:30-9:50	Route 13 to Caldecott Tunnel
ALA	24	W	400	7:05-9:20	At Telegraph Avenue
ALA/CC	80	W	6,570	5:45-9:45	Route 4 to Bay Bridge metering lights
ALA	84	S	80	5:30-9:50	At Dumbarton Bridge toll plaza
ALA	92	W	130	7:50-9:20	At San Mateo-Hayward Bridge toll plaza
ALA	238	N	260	5:50-8:55	I-580 to south of I-880 southbound offramp
ALA	238	S	70	7:15-8:15	I-880 to south of Castro Valley Boulevard
ALA/CC	580	E	110	6:50-9:25	Central Avenue to Buchanan Street
ALA	580	W	400	6:15-8:30	I-205 to west of Grant Line Road
ALA	580	W	4,320	5:50-9:15	North Flynn Road to Airway Boulevard
ALA	580	W	360	6:45-9:15	Hopyard Road to I-680
ALA	580	W	380	6:25-8:10	Strobridge Avenue to Route 238
ALA	580	W	460	7:35-9:15	Route 13 to Lakeshore Avenue
ALA	580	W	710	6:25-9:05	Route 24 to I-80
ALA	680	N	130	7:50-9:00	At I-580 and at Alcosta Boulevard
ALA	880	N	2,190	6:20-9:30	0.4 miles south of HOV lane split to Bay Bridge
ALA	880	N	750	7:15-9:10	Fremont Boulevard to Whipple Road
ALA	880	N	170	7:35-9:10	Route 92 to south of Hesperian Boulevard
ALA	880	N	220	7:15-9:50	Route 238 to Davis Street and at Hegenberger Road
ALA	880	N	280	7:50-9:00	Hegenberger Road to High Street
ALA	880	S	1,350	7:15-9:50	South of Marina Boulevard to Route 92
ALA	880	S	920	7:05-9:05	Industrial Boulevard to Decoto Road
ALA	880	S	2,000	7:00-10:30	Thornton Avenue to Stevenson Boulevard and Auto Mall Parkway to north of Dixon Landing Road
CC	4	W	420	6:45-8:45	Bailey Road to Willow Pass Road (Concord)
CC	4	W	3,670	5:30-9:30	Hillcrest Road to Loveridge Road
CC	24	W	900	6:45-9:15	Camino Pablo to Gateway Boulevard
CC	24	W	220	7:35-9:05	I-680 to east of Laurel Drive
CC	242	S	100	6:45-8:30	Concord Avenue to I-680
CC	580	W	270	6:15-8:55	Marine Street undercrossing to Richmond-San Rafael Bridge toll plaza
CC	680	N	400	7:35-9:10	Sycamore Valley Road to El Pintado Road

County abbreviations: ALA=Alameda; CC=Contra Costa; MRN=Marin; SCL=Santa Clara; SF=San Francisco, SM=San Mateo; SOL=Solano; SON=Sonoma

Morning Peak-Period Congested Locations, 2003 (continued)

COUNTY	ROUTE	DIR.	DELAY (vehicle hours)	DURATION (AM)	LOCATION
CC	680	S	850	6:55-9:35	South Main to Stone Valley Road
CC	680	S	840	6:35-8:45	Contra Costa Boulevard to Geary Road
CC	680	S	640	6:35-8:50	At Benicia-Martinez Bridge toll plaza and Marina Vista to Route 4
MRN	101	S	2,980	6:40-10:00	South of Rowland Boulevard to I-580
SCL	17	N	150	7:45-8:40	North of Camden Avenue
SCL	85	N	210	6:40-9:20	At Bernal Road onramp (metering lights)
SCL	85	N	390	7:10-9:15	Almaden Expressway to Union Avenue
SCL	85	N	470	7:10-9:50	Route 17 to Saratoga Avenue
SCL	85	N	120	7:20-8:45	North of Saratoga Avenue and at De Anza Boulevard
SCL	85	N	510	7:00-9:45	I-280 to El Camino Real and at U.S. 101
SCL	87	N	100	8:50-10:00	Curtner Avenue to Almaden Expressway
SCL	101	N	700	6:20-8:15	San Martin Avenue to Tennant Avenue and Tennant Avenue to Cochrane Road
SCL	101	N	840	6:30-8:30	North of Route 82 to Tully Road
SCL	101	N	2,130	7:00-9:10	I-280 to Trimble Road
SCL	101	N	380	7:30-9:15	Ellis Street to Route 85
SCL	101	N	300	6:40-9:10	At San Antonio Road
SCL	237	E	180	7:50-9:20	At Mathilda Avenue and at I-880 southbound offramp connector
SCL	237	W	340	7:20-9:10	I-880 split to Zanker Avenue
SCL	280	N	150	7:15-8:15	U.S. 101 to Reed Street
SCL	280	N	410	6:50-9:10	Meridian Avenue to I-880
SCL	680	N	60	7:40-8:20	Capitol Expressway to McKee Road
SCL	680	S	200	7:40-8:45	At U.S. 101
SCL	880	N	1,030	7:00-10:45	North First Street to Brokaw Road
SCL	880	S	50	7:40-8:40	Montague Expressway to Brokaw Road
SF	80	W	920	6:10-9:00	Treasure Island to Fremont Street
SF	80	E	1,130	7:05-9:45	U.S. 101 to Sterling Street
SF	101	N	1,180	7:00-9:50	Alemany Boulevard to I-80
SF	101	S	10	6:55-8:00	At I-80
SF	280	N	280	6:40-8:15	Alemany Boulevard to U.S. 101
SF	280	N	180	7:30-9:15	Mariposa Street to King Street
SM/SCL	101	S	1,470	7:30-9:30	Woodside Road to Route 85
SM	101	N	600	7:30-9:30	Willow Road to Woodside Road

Morning Peak-Period Congested Locations, 2003 (continued)

COUNTY	ROUTE	DIR.	DELAY (vehicle hours)	DURATION (AM)	LOCATION
SM	101	N	480	7:30-9:00	Route 92 to Third Avenue and at Peninsula Avenue
SM	101	S	950	7:00-9:30	Route 92 to Hillsdale Avenue and at Whipple Avenue
SM	101	S	200	7:40-9:15	Harney Way to Sierra Point Parkway
SM	280	S	290	7:15-8:50	Route 1 to Avalon Drive
SOL/SON	37	W	70	6:40-8:40	At Skaggs Island Road and at Sonoma/Solano county line
SOL	37	W	220	6:10-8:15	Mare Island interchange to postmile 6 and postmile 4 to Skaggs Island
SOL	80	W	320	5:50-7:45	Solano Avenue to Carquinez Bridge toll plaza
SOL	80	W	350	6:15-8:20	Abernathy Road to west of Route 12
SON	101	S	990	5:35-8:20	South of Redwood Highway to north of Kastania Road
SON	101	S	80	7:25-8:50	End of HOV lane to Wilfred Avenue
SON	101	S	430	7:10-9:10	Airport Boulevard to south of River Road
SON	101	N	370	7:20-9:10	Route 116 to Golf Road and Hearn Avenue to College Avenue

Evening Peak-Period Congested Locations, 2003 (ordered by county and route)

COUNTY	ROUTE	DIR.	DELAY (vehicle hours)	DURATION (PM)	LOCATION
ALA	24	E	2,470	3:30-6:45	I-580 to Caldecott Tunnel
ALA/SF	80	E	1,740	3:40-6:35	At Sterling Street and county line to I-580
ALA	80	E	2,340	3:15-7:05	I-580 to Gilman Street
ALA/SF	80	W	2,180	4:20-7:00	At Bay Bridge toll plaza and incline section of Bay Bridge to Fifth Street
ALA	80	W	1,030	3:15-6:35	Buchanan Street to I-580/I-880
ALA	84	N	160	3:25-6:15	Newark Boulevard to I-880
ALA	92	E	2,110	3:50-6:45	Industrial Way to I-880
ALA	238	N	190	2:50-6:45	I-580 to south of I-880
ALA	238	S	450	3:45-6:35	I-880 to Castro Valley Boulevard
ALA	580	E	2,370	3:25-7:00	East of Livermore to east of Greenville Road
ALA	580	E	4,320	2:55-6:40	Hopyard Road to west of El Charro Road
ALA	580	E	710	4:25-6:25	Route 24 to Coolidge Avenue and at MacArthur Boulevard
ALA	580	W	670	3:15-6:35	Strobridge Avenue to Route 238
ALA	680	N	660	3:15-6:15	Route 262 to Washington Avenue
ALA	880	N	370	4:00-7:10	South of Fremont Boulevard to Auto Mall Parkway
ALA	880	N	220	4:05-5:50	Mowry Avenue to south of Route 84
ALA	880	N	1,420	3:25-6:45	Route 84 to Industrial Boulevard
ALA	880	N	470	4:25-6:35	At A Street and at Route 238 interchange
ALA	880	N	750	3:15-5:35	Hegenberger Road to Coliseum Way
ALA	880	S	330	3:50-5:50	Route 92 to Industrial and Fremont Boulevard to Decoto Road
ALA	880	S	420	4:00-6:25	At Hesperian Boulevard and A Street to Route 92
ALA	880	S	410	4:45-6:15	Hegenberger to 98th Avenue; Davis Street to Marina Boulevard; and at Route 238
ALA	880	S	370	4:45-6:15	Oak Street to Embarcadero; at Fruitvale Avenue; and at 42nd Avenue
CC	4	E	820	3:45-6:15	Route 242 to Port Chicago Highway
CC	4	E	1,870	3:15-7:25	Bailey Road to G Street
CC	24	E	190	3:50-6:00	At Acalanes and at I-680
CC	24	W	1,090	4:15-6:40	West of Camino Pablo to Fish Ranch Road
CC/ALA	80	E	530	4:00-6:30	Buchanan Street to San Pablo Avenue
CC	80	E	250	4:25-6:00	El Portal Road to Pinole Valley Road
CC	680	N	620	4:00-6:35	North of Bollinger Canyon Road to Sycamore Valley Road

County abbreviations: ALA=Alameda; CC=Contra Costa; MRN=Marin; SCL=Santa Clara; SF=San Francisco, SM=San Mateo; SOL=Solano; SON=Sonoma

Evening Peak-Period Congested Locations, 2003 (continued)

COUNTY	ROUTE	DIR.	DELAY (vehicle hours)	DURATION (PM)	LOCATION
CC	680	N	710	3:30-6:00	El Pintado Road to north of Livorna Road
CC	680	N	960	2:50-6:15	Rudgear Drive to North Main Street and at Treat Boulevard
CC	680	N	1,430	3:20-6:50	Burnett Avenue to Concord Avenue and Arthur to Benicia Bridge
CC	680	S	670	3:30-6:00	South of Route 24 to north of Livorna Road
MRN	101	S	180	4:30-6:55	South of Waldo Tunnel to San Francisco county line
MRN	101	N	1,600	2:45-6:20	North of Seminary Drive to south of San Pedro Road
MRN	101	N	550	3:20-6:25	Atherton Avenue to north of beginning of expressway
MRN	101	N	300	3:15-6:25	At north of San Antonio Road
MRN	580	W	590	2:40-6:50	Bellam Road to U.S. 101
SCL	17	S	100	4:20-6:00	North of Hamilton Avenue
SCL	85	S	30	5:40-6:50	At Route 87
SCL	85	S	280	4:20-6:45	Route 17 to south of Union Avenue
SCL	85	S	490	3:40-6:50	Stevens Creek Boulevard to De Anza Boulevard
SCL	85	S	740	4:00-7:00	Evelyn Avenue to Fremont Avenue
SCL	87	S	770	2:45-6:10	I-280 to Alma Avenue
SCL	101	S	1,530	3:45-7:10	East Santa Clara Street to Capitol Expressway
SCL	101	S	1,580	3:50-6:15	San Tomas Expressway to 13th Street
SCL/SM	101	N	980	4:30-7:00	Ellis Street to Embarcadero Road
SCL/SM	101	S	2,490	3:45-7:15	University Avenue to Shoreline Boulevard
SCL	237	E	220	3:30-7:10	Great America Parkway to North First Street
SCL	237	E	400	3:30-7:10	At I-880 junction (connector)
SCL	237	W	340	5:00-6:45	McCarthy Boulevard to North First Street and Mathilda Avenue to U.S. 101
SCL	280	S	530	4:50-6:30	Moorpark Avenue East to 11th Street
SCL	280	S	310	4:45-6:40	At De Anza Boulevard and at Saratoga Avenue
SCL	280	S	140	5:10-6:30	El Monte Road to north of Magdalena Avenue
SCL	680	S	740	5:40-6:50	Montague Expressway to Berryessa Road
SCL	880	S	190	5:10-6:50	U.S. 101 to First Street and Route 82 to north of Bascom Avenue
SCL	880	S	1,510	2:30-7:50	Montague Expressway to Brokaw Road
SCL	880	N	2,450	4:00-7:10	Montague Expressway to north of Dixon Landing Road
SF	80	E	3,540	2:45-7:20	U.S. 101 to Sterling Street
SF	80	W	290	3:40-6:50	5th Street to U.S. 101

Evening Peak-Period Congested Locations, 2003 (continued)

COUNTY	ROUTE	DIR.	DELAY (vehicle hours)	DURATION (PM)	LOCATION
SF	101	N	980	3:55-6:40	Cesar Chavez Street to I-80
SF	101	S	440	3:35-7:10	South Van Ness Avenue to I-80
SF	101	S	110	5:10-6:25	I-80 to Cesar Chavez Street
SF	280	S	260	4:30-6:15	U.S. 101 to Alemany Boulevard
SF	280	S	150	4:50-6:30	Mariposa Street to Pennsylvania Avenue
SM	92	W	80	5:15-6:15	U.S. 101 to Delaware Street
SM	101	N	1,240	4:30-6:40	At Marsh Road and Woodside Road to Hillsdale Boulevard
SM	101	N	730	4:30-7:00	Route 92 to Third Avenue and De Anza Boulevard to Bridgeway
SM	101	S	50	4:50-5:50	At Woodside Road and at Willow Street
SM	101	S	310	3:30-6:30	At Poplar Avenue
SM	101	S	200	3:20-6:00	Millbrae Avenue to Bridgeway
SM	280	N	210	5:30-6:30	Sandhill Road to Woodside Road and north of Woodside Road
SM	280	N	160	5:20-6:40	I-380 to Westborough Boulevard
SM	380	W	100	5:00-6:40	At I-280
SOL	80	E	780	3:15-6:10	Jamieson Canyon Road (Route 12) to Cordelia truck scales
SOL	80	E	230	4:30-6:30	East of Magellan Road to east of Travis Boulevard
SOL	80	E	220	3:35-6:40	At Carquinez Bridge toll plaza
SOL	680	N	620	3:10-6:35	South of Cordelia Street to I-80
SON	37	E	170	3:45-6:10	At Route 121
SON	101	N	100	4:25-6:05	North of East Washington Avenue
SON	101	N	120	3:50-6:10	At Old Redwood Highway
SON	101	N	1,660	2:05-6:20	Route 116 to Golf Course Road and north of Todd Road to north of College Avenue
SON	101	S	130	2:50-6:15	End of HOV lane to Wilfred Avenue
SON	101	S	1,100	2:45-6:15	River Road to south of College Avenue

Trends in Freeway Commute Times Vary by Corridor; Transit Travel Times Show Little Change

- No particular trend is evident in the travel times for the eight commutes tracked to San Jose, San Francisco and Oakland.
- Of the nine commutes monitored, only the one from Gilroy to San Jose grew substantially worse in 2003. Driving time increased to 55 minutes from 45 minutes in 2002.
- Commutes to Oakland through the Caldecott Tunnel and on northbound I-880 remained steady in 2003, as did the U.S. 101 northbound commute from the Peninsula to San Francisco.
- Where commute times improved in 2003, time savings were substantial compared to commute times in 2002. The biggest improvement occurred on the commute from Vallejo to San Francisco on I-80, which decreased to 61 minutes from 80 minutes. The commute on I-880 from Hayward to San Jose improved fell a comparable amount to 43 minutes from 63 minutes.
- Commute times largely held steady for public transit riders whether they used buses, trains or ferries; however, improvements in driving conditions during the morning commute eroded the time advantage offered by transit for some commutes.

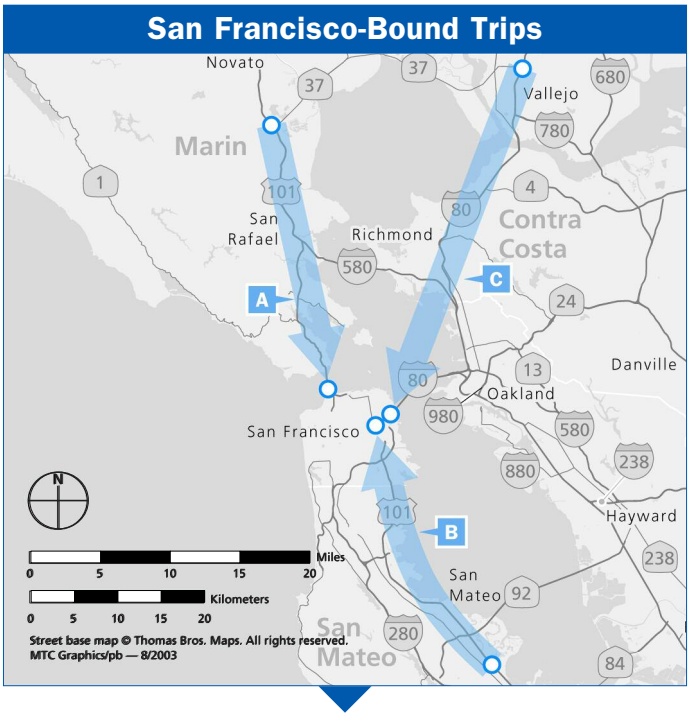
(See maps and tables on following pages.)

Note:

The driving times reported here assume drivers use the main freeway routes between origin and destination points, and it is further assumed that the drivers travel in regular, mixed-flow freeway lanes rather than carpool lanes, and that no accidents or unusual delays are encountered en route.

The transit travel times reported here refer to the elapsed time between the starting and ending transit stops. Like the freeway travel times, the transit travel times do not include the time it takes to get from home to the point of embarkation or from the destination stop to the workplace, and it is assumed no delays are encountered en route.

Selected Commute Times (Freeway and Transit) (continued)



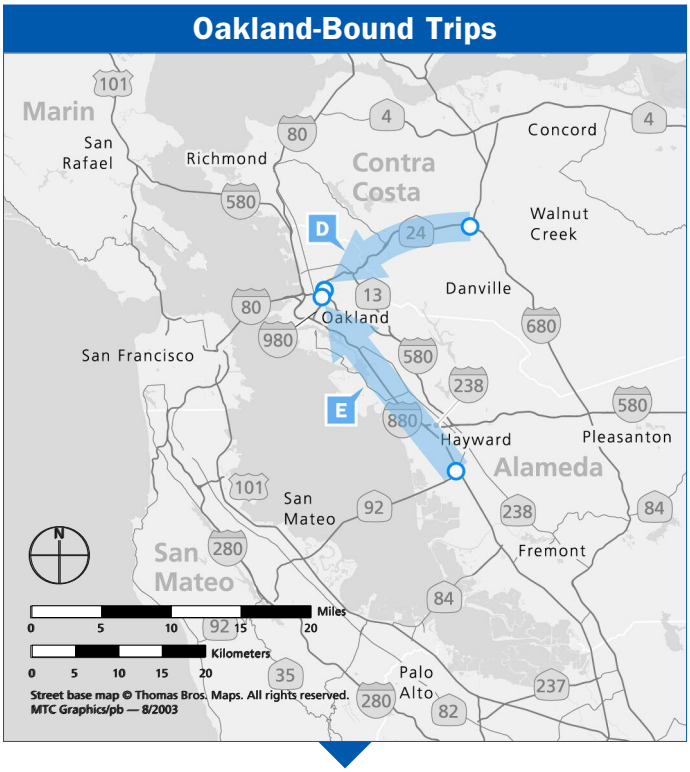
Travel Time for Selected Commutes to San Francisco (arriving at 8:30 a.m.), 1999 – 2003

		Travel Time in Minutes					Change in Minutes	
		1999	2000	2001	2002	2003	2002–2003	1999–2003
A	***From Novato***							
	Freeway — *U.S. 101 southbound from Novato to Route 1 junction in San Francisco (28 miles)*	66	69	55	57	52	–5	–14
	Transit — *Golden Gate Transit Route 80 from Novato to San Francisco Civic Center (29 miles)*	NA	NA	NA	84	88	+4	NA
B	***From Redwood City***							
	Freeway — *U.S. 101 northbound from Redwood City to Interstate 80 junction (24 miles)*	33	32	26	35	35	0	+2
	Transit — *Caltrain from Redwood City station to San Francisco station at 4th Street and Townsend (26 miles)*	NA	NA	NA	46	46	0	NA
C	***From Vallejo***							
	Freeway — *Interstate 80 westbound from Route 37 in Vallejo to 5th Street (32 miles)*	70	87	82	80	61	–19	–9
	Transit — *Vallejo Ferry Terminal to the San Francisco Ferry Building (27 miles)*	NA	NA	NA	55	55	0	NA

Sources: Caltrans District 4 and Metropolitan Transportation Commission

Transit travel time not collected prior to 2002
Freeway travel times assume typical travel conditions, with no accidents. Transit travel times assume scheduled times.

Selected Commute Times (Freeway and Transit) (continued)



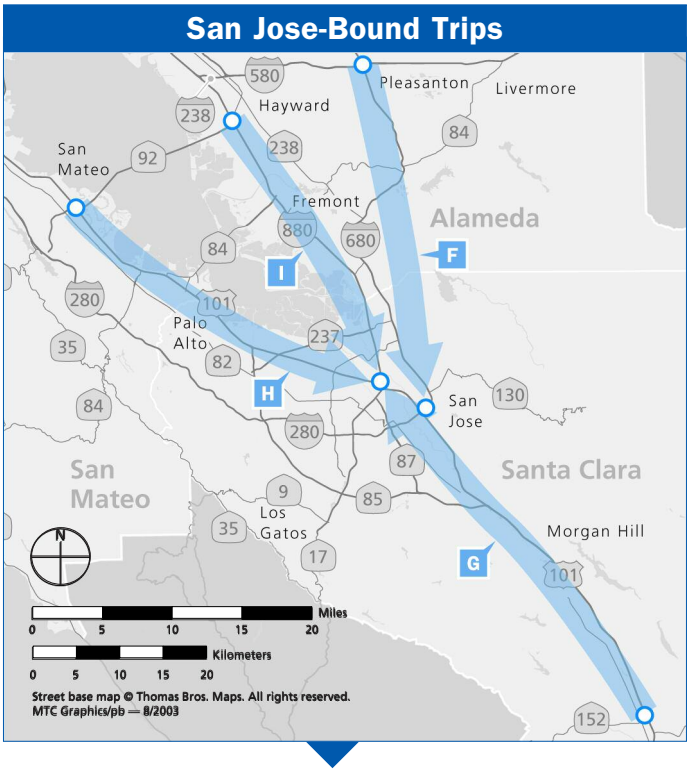
Travel Time for Selected Commutes to Oakland (arriving at 8:30 a.m.), 1999 – 2003

		Travel Time in Minutes					Change in Minutes	
		1999	2000	2001	2002	2003	2002–2003	1999–2003
D	***From Walnut Creek***							
	Freeway — *Route 24 westbound from Interstate 680 junction in Walnut Creek to Interstate 580/980 junction (14 miles)*	17	20	26	26	26	0	+9
	Transit — *BART from Walnut Creek station to Oakland City Center/12th Street station (15 miles)*	NA	NA	NA	22	22	0	NA
E	***From Hayward***							
	Freeway — *Interstate 880 northbound and I-980 eastbound from Route 92 junction in Hayward to Interstate 580 junction (17 miles)*	19	19	23	23	24	+1	+5
	Transit — *BART from Hayward station to Oakland City Center/12th Street station (14 miles)*	NA	NA	NA	23	23	0	NA

Sources: Caltrans District 4 and Metropolitan Transportation Commission

Transit travel time not collected prior to 2002
Freeway travel times assume typical travel conditions, with no accidents. Transit travel times assume scheduled times.

Selected Commute Times (Freeway and Transit) (continued)



Travel Time for Selected Commutes to San Jose (arriving at 8:30 a.m.), 1999 – 2003

		Travel Time in Minutes					Change in Minutes	
		1999	2000	2001	2002	2003	2002–2003	1999–2003
F	**From Dublin/Pleasanton**							
	Freeway — *Interstate 680 southbound from Interstate 580 junction in Dublin to U.S. 101/ Interstate 280 junction in San Jose (29 miles)*	61	69	69	42	33	–9	–28
	Transit — *Altamont Commuter Express (ACE) Pleasanton station to San Jose Diridon station by ACE train (34 miles)*	NA	NA	NA	62	64	+2	NA
G	**From Gilroy**							
	Freeway — *U.S. 101 northbound from Route 152 junction in Gilroy to Interstate 880 junction (33 miles)*	54	59	55	45	55	+10	+1
	Transit — *Caltrain from Gilroy station to San Jose Diridon station (30 miles)*	NA	NA	NA	52	52	0	NA
H	**From San Mateo**							
	Freeway — *U.S. 101 southbound from Route 92 junction in San Mateo to Interstate 880 junction (26 miles)*	42	44	43	41	42	+1	0
	Transit — *Caltrain from San Mateo station to San Jose Diridon station (30 miles)*	NA	NA	NA	60	60	0	NA
I	**From Hayward**							
	Freeway — *Interstate 880 southbound from Route 92 junction in Hayward to U.S. 101 junction (22.8 miles)*	53	67	61	63	43	–20	–10
	Transit — *Amtrak from Hayward station to San Jose Diridon station (28 miles)*	NA	NA	NA	62	62	0	NA

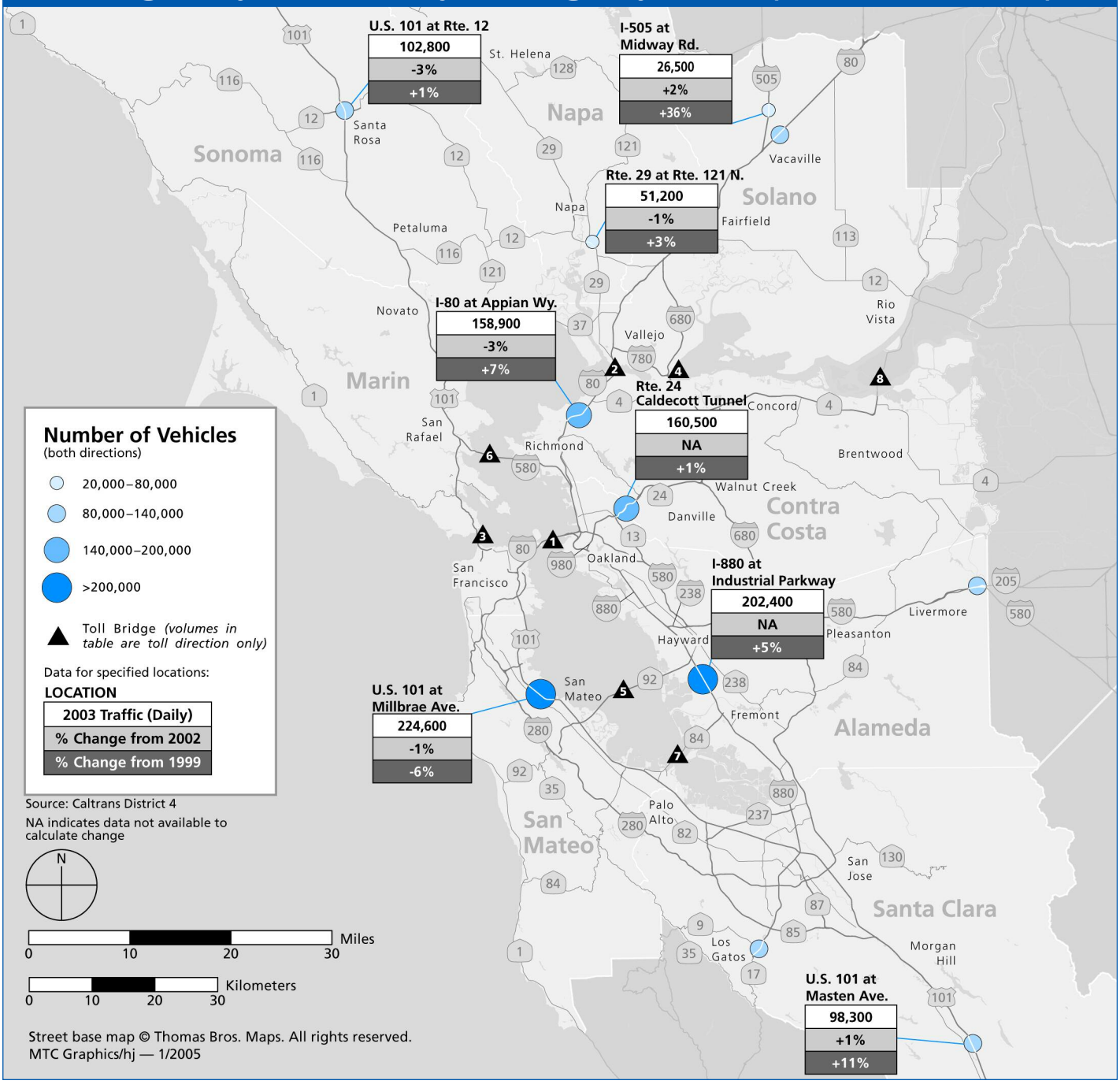
Sources: Caltrans District 4 and Metropolitan Transportation Commission

Transit travel time not collected prior to 2002
Freeway travel times assume typical travel conditions, with no accidents. Transit travel times assume scheduled times.

Traffic Volumes Down from 2002, but Up Over Last Four Years

- There were small decreases in traffic volumes in 2003 in several Bay Area locations.
- Traffic has decreased since 1999 at only one of the locations tracked: U.S. 101 at Millbrae Avenue on the Peninsula. This likely reflects the fact that both air cargo and air passenger traffic at the San Francisco Airport, which dropped precipitously in 2001, still have not returned to their 1998 levels.
- This example runs counter to the general trend over the past several years, as evidenced by the growth in traffic since 1999 at nearly all the locations tracked.
- I-505 at Midway Road in Solano County recorded the largest four-year growth, with a 36 percent increase in average daily traffic between 1999 and 2003.

Average Daily Traffic on Bay Area Highways, 2003 (Selected Locations)



A Closer Look at Bay Area Toll Bridges

- Traffic volumes were relatively steady on most Bay Area Toll bridges in 2003 with changes of less than 5 percent except for the San Mateo-Hayward and Dumbarton Bridges.

- These changes are likely explained by the opening, in November 2002, of two new lanes (one in each direction) on the low-rise section of the San Mateo-Hayward Bridge. As a result of the widening, some drivers likely switched from the Dumbarton Bridge to the San Mateo-Hayward Bridge to take advantage of the new lanes.

- Traffic on the Golden Gate Bridge, which has fallen steadily since 2000, fell another 4 percent in 2003.

Average Daily Traffic on Bay Area Toll Bridges (toll direction only), 1999 – 2003

	Number of Vehicles					Percent Change	
Bridge	**1999**	**2000**	**2001**	**2002**	**2003**	**2002–2003**	**1999–2003**
1 San Francisco–Oakland Bay	135,200	138,200	136,600	137,000	134,700	–2%	0%
2 Carquinez	58,100	60,400	62,200	64,100	64,000	0%	+10%
3 Golden Gate	57,600	58,100	56,500	54,900	52,700	–4%	–9%
4 Benicia–Martinez	46,900	47,700	49,400	50,800	51,000	0%	+9%
5 San Mateo–Hayward	40,900	42,600	41,200	42,000	44,700	+6%	+9%
6 Richmond–San Rafael	32,800	34,000	35,400	35,900	35,800	0%	+9%
7 Dumbarton	31,900	34,200	34,400	33,000	30,500	–8%	–4%
8 Antioch	5,300	5,800	6,500	6,900	7,100	+3%	+34%
Total All Bridges	**408,700**	**421,000**	**422,200**	**424,600**	**420,500**	**–1%**	**+3%**

Sources: Bay Area Toll Authority; Golden Gate Bridge, Highway and Transportation District

Carpoolers Saving Time, Even with Lighter Traffic

- Those using carpool lanes in 2003 continued to realize significant savings compared to other drivers.
- Morning carpoolers on southbound I-880 saved the most time.
- Three of the top time-saving lane segments are on State Route 85 and four are on Interstate 880.

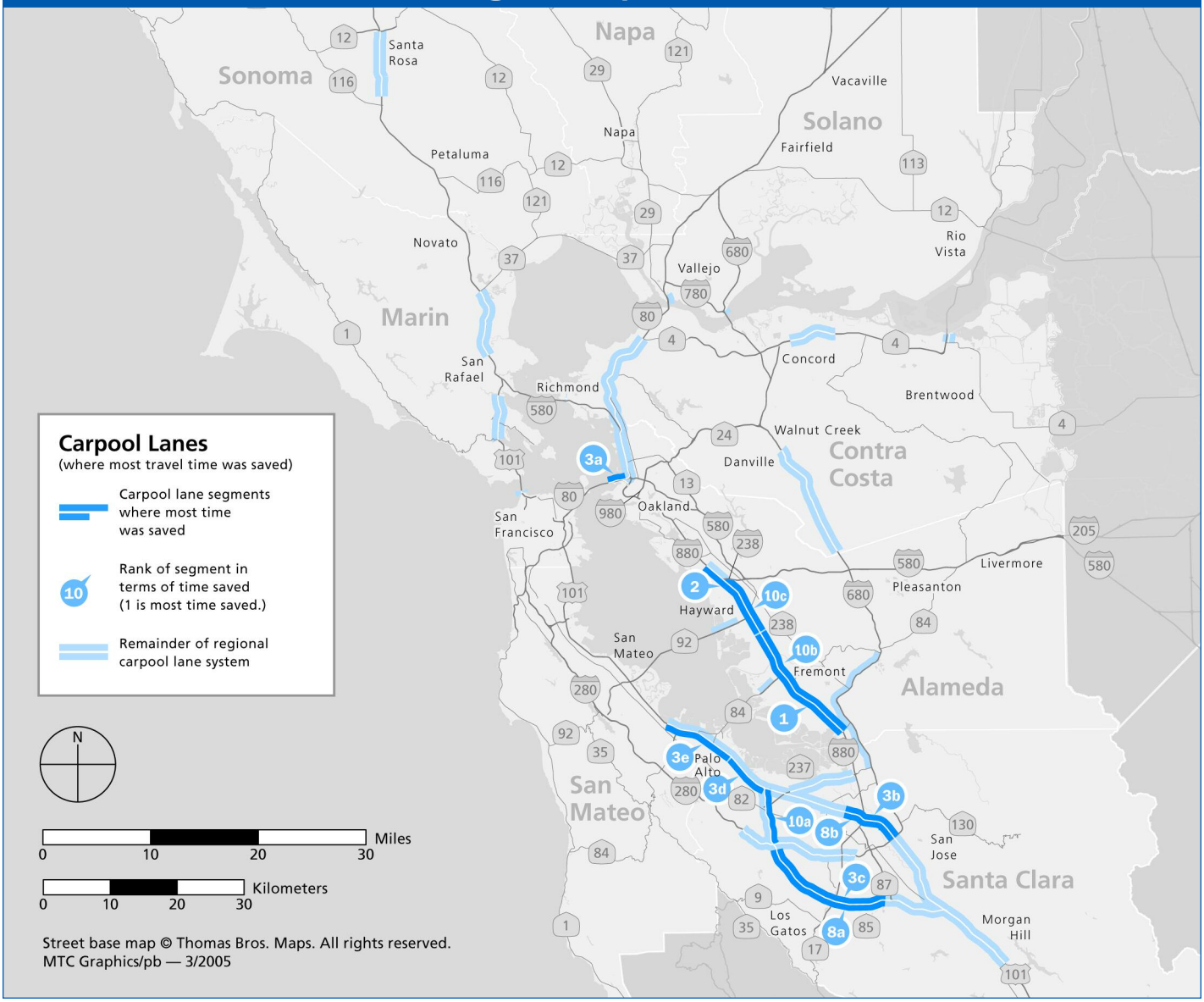
Bay Area Carpool Lanes Where Most Time Was Saved, 1999 – 2003

		Minutes Saved per Vehicle in Peak Hour					Change in Minutes Saved	
Rank	Carpool Lane	1999	2000	2001	2002	2003	2002–2003	1999–2003
1	**Interstate 880, southbound, a.m.** — Alameda County *Whipple Road to Mission Boulevard (11.5 miles)*	25	25	40	40	20	–20	–5
2	**Interstate 880, southbound, a.m.** — Alameda County *Marina Boulevard to Whipple Road (8.8 miles)*	14	14	12	12	18	+6	+4
3a	**Interstate 80, westbound, a.m.** — Alameda County *Bay Bridge toll plaza (4 lanes, 0.4 to 1.0 miles)*	18	24	24	19	13	–6	–5
3b	**U.S. 101, northbound, a.m.** — Santa Clara County *I-280/I-680 interchange to Guadalupe Parkway (6 miles)*	11	16	13	13	13	0	+2
3c	**Route 85, northbound, a.m.** — Santa Clara County *Almaden Expressway to Interstate 280 (11.8 miles)*	5	9	16	9	13	+4	+8
3d	**U.S. 101, southbound, p.m.** — Santa Clara County *San Mateo County line to Ellis Street (5.5 miles)*	4	9	9	9	13	+4	+9
3e	**U.S. 101, southbound, a.m.** — San Mateo County *Whipple Avenue to Santa Clara County line (6.9 miles)*	7	8	9	8	13	+5	+6
8a	**Route 85, southbound, p.m.** — Santa Clara County *Interstate 280 to Almaden Expressway (11.8. miles)*	9	9	15	11	12	+1	+3
8b	**U.S. 101, southbound, p.m.** — Santa Clara County *Guadalupe Parkway to I-280/I-680 interchange (5.0 miles)*	4	5	12	12	12	0	+8
10a	**Route 85, northbound, a.m.** — Santa Clara County *Interstate 280 to U.S. 101 (3.5 miles)*	8	13	12	13	11	–2	+3
10b	**Interstate 880, northbound, p.m.** — Alameda County *Mission Boulevard to Whipple Road*	9	10	15	15	11	–4	+2
10c	**Interstate 880, northbound, p.m.** — Alameda County *Whipple Road to south of State Route 238*	8	5	1	1	11	+10	+3

Source: Caltrans District 4

[1]Carpool is three or more persons per vehicle. For all other listed locations, carpool is two or more persons.

Time Savings in Carpool Lanes, 2003



Popularity of Carpool Lanes Varies by Location

- The carpool lanes on I-80 in Alameda and Contra Costa counties remain some of the most heavily used. In particular, the westbound lanes approaching the Bay Bridge in the morning continue to carry the largest number of vehicles, despite a 6 percent decrease in vehicles compared to 2002.
- Three other I-80 carpool lane segments rank in the top 6 for carpool lane usage. Carpool lanes on I-80 also saw some of the highest increases in usage.
- Carpool lane segments on U.S. 101 in Santa Clara County rebounded somewhat from 2002 to 2003 but the number of vehicles is still 5 percent to 8 percent below 1999 levels.

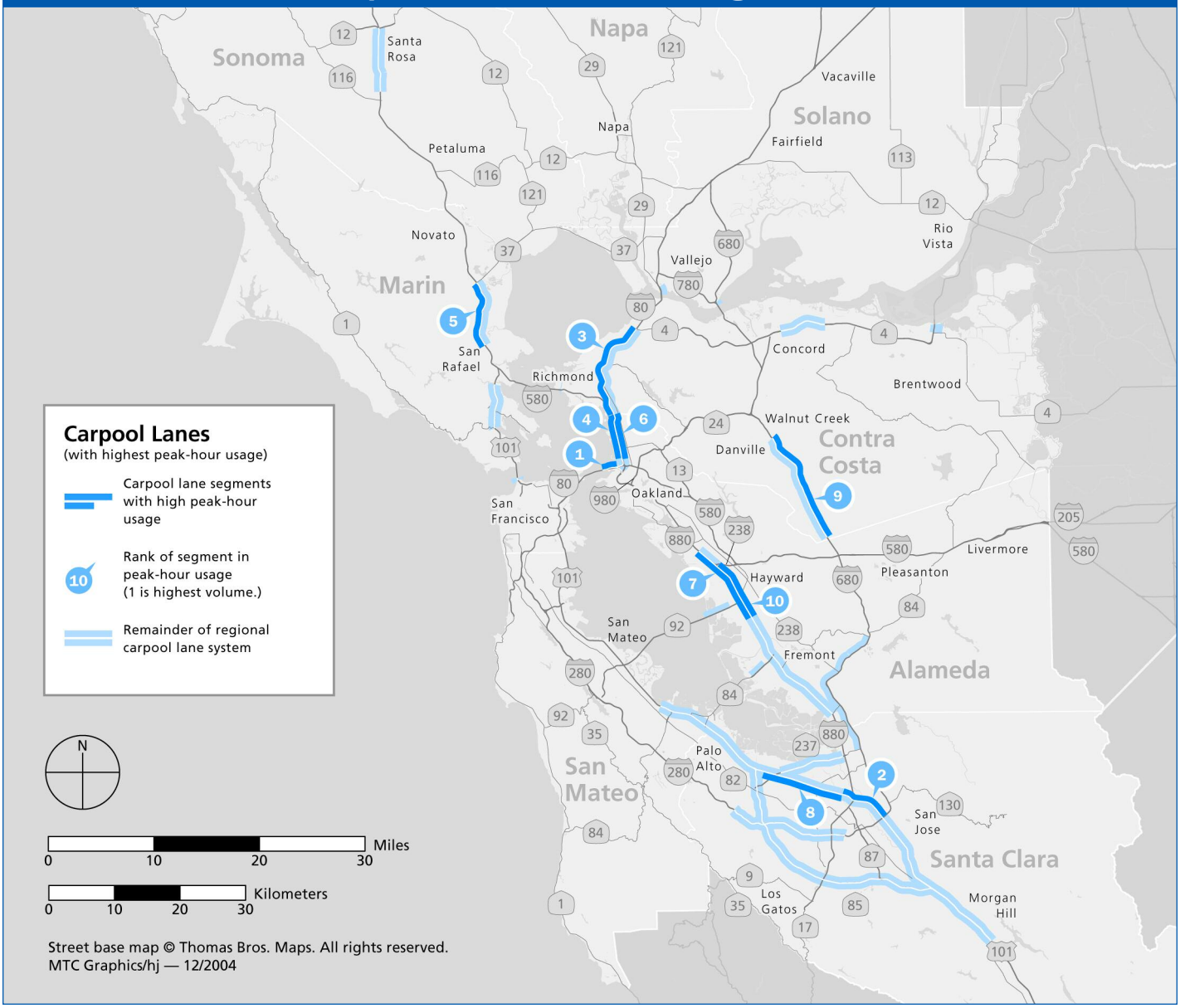
Bay Area Carpool Lanes With Highest Peak-Hour Usage, 1999 – 2003

		Peak-Hour Carpool Vehicles[1]					Percent Change	
Rank	Carpool Lane	1999	2000	2001	2002	2003	2002–2003	1999–2003
1	**Interstate 80, westbound, a.m. —** Alameda County *Bay Bridge toll plaza*	3,492	3,804	3,975	3,730	3,512	–6%	+1%
2	**U.S. 101, northbound, a.m. —** Santa Clara County I-280/I-680 interchange to Guadalupe Parkway	1,692	1,585	1,594	1,490	1,554	+4%	–8%
3	**Interstate 80, westbound, a.m. —** Contra Costa County *Route 4 to Alameda County line*	1,146	1,428	1,317	1,285	1,514	+18%	+32%
4	**Interstate 80, westbound, a.m. —** Alameda County *Contra Costa County line to Powell Street*	1,503	1,113	1,555	1,698	1,512	–11%	+1%
5	**U.S. 101, southbound, a.m. —** Marin County *State Route 37 to North San Pedro Road*	1,217	1,282	1,361	1,361	1,317	–3%	+8%
6	**Interstate 80, eastbound, p.m. —** Alameda County *Powell Street to Contra Costa County line*	1,242	1,217	1,080	1,070	1,295	+21%	+4%
7	**Interstate 880, southbound, p.m. —** Alameda County *Marina Boulevard to Whipple Road*	745	748	996	1,280	1,289	+1%	+73%
8	**U.S. 101, southbound, p.m. —** Santa Clara County *Ellis Street to Guadalupe Parkway*	1,342	1,333	1,331	1,058	1,272	+20%	–5%
9	**Interstate 680, northbound, p.m. —** Contra Costa County *Alcosta Boulevard to Livorna Road*	1,119	1,421	1,383	1,374	1,266	–8%	+13%
10	**Interstate 880, northbound, p.m. —** Alameda County *Whipple Road to south of Interstate 238 interchange*	867	1,364	1,338	1,264	1,254	–1%	+45%

Source: Caltrans District 4

[1]Includes buses, vanpools and motorcycles

Carpool Lane Peak-Hour Usage, 2003



MTC Graphics/hj — 12/2004

Local Road Congestion Eases in Marin and San Mateo Counties, Worsens in Solano County

- Just three counties developed updated statistics on local roadway congestion in 2003.

- In Marin County, the trends were more positive than negative, but were somewhat mixed. The share of local roads considered uncongested increased from 61 percent in 2001 to 80 percent in 2003 but the share of roads considered severely congested also bumped up somewhat, to 13 percent from 10 percent.

- The improvement was across the board in San Mateo County, where the share of uncongested roads increased from 63 percent to 80 percent, and the already small share of severely congested roads decreased from 5 percent to 3 percent.

- Congestion on local roads increased in Solano County. The share of uncongested roads fell by 14 percentage points to 70 percent in 2003, and the share of moderately congested roads rose by the same number of percentage points.

(See chart next page.)

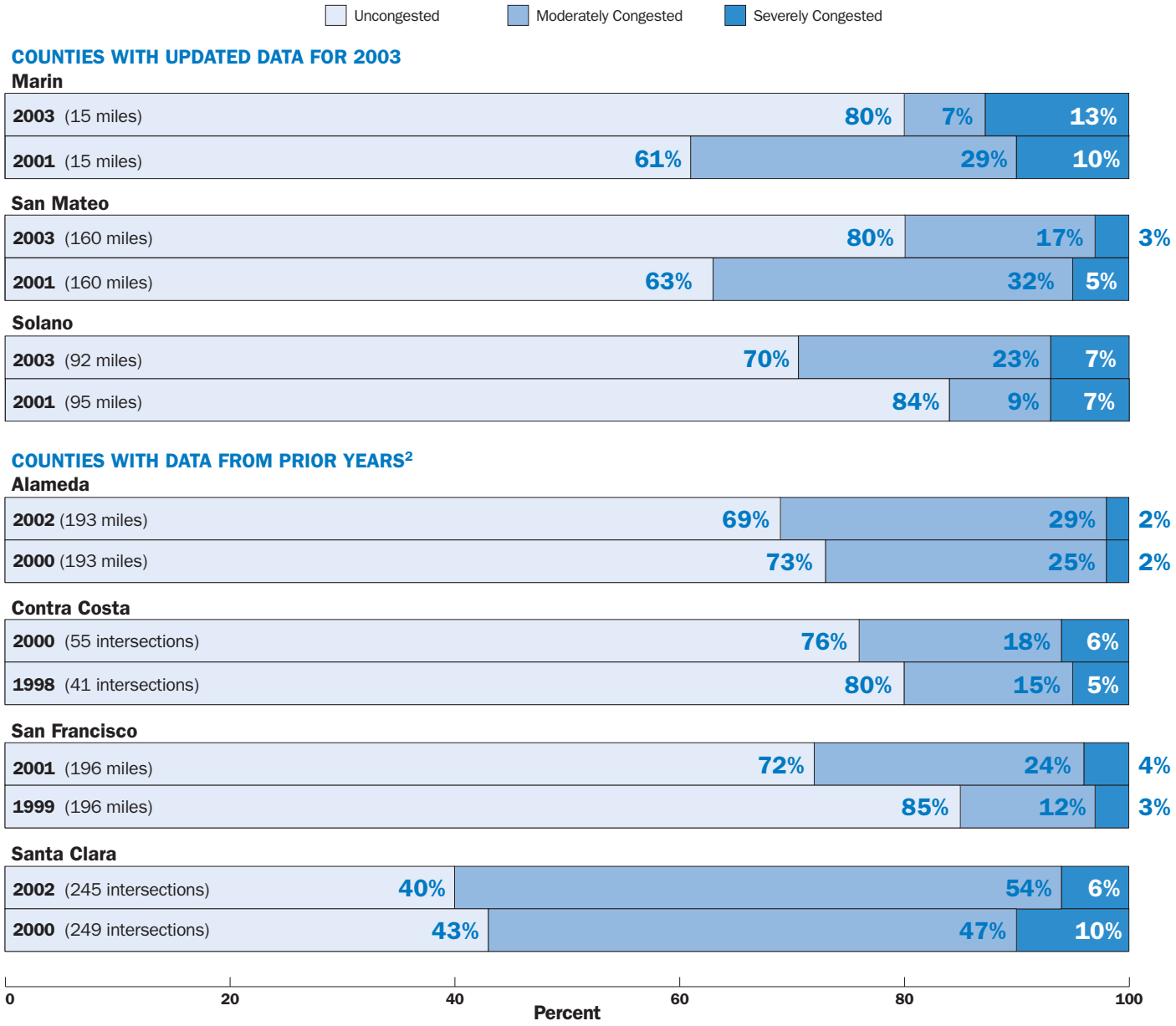
Note:

In the Bay Area congestion management agencies monitor a selected system of "high priority" local roads biennially in every county except Napa and Sonoma counties. Santa Clara and Contra Costa counties measure congestion based on vehicle counts at major intersections. San Francisco, Alameda and Marin counties measure congestion on roadway segments either by counting vehicles or by using specially equipped cars that cruise selected segments of the roadway system to calculate the average travel speed. San Mateo and Solano counties use both the intersection and roadway segment techniques, but only the results of the segment monitoring are reported here, because these account for a greater portion of those counties' roadway networks.

Because monitoring techniques vary by county, the data presented here is best used to track changes within a given county over time (rather than to compare conditions in different counties).

Local Traffic (continued)

Local Roadway Congestion by County[1] During the P.M. Peak Commute Period



Source: County congestion monitoring reports

[1] Selected road segments and/or intersections; Napa and Sonoma counties do not monitor local roadway congestion.
[2] Current (2003) data is not available for Alameda, Contra Costa, San Francisco, and Santa Clara counties.

AC Transit, VTA Light Rail and Muni Improve Punctuality; Other Transit Operators Continue Strong Records

- AC Transit improved from 74 percent on-time in 2001-02 to 81 percent on-time in 2002-03, its best performance in at least the past seven years. In 2003, AC Transit revised bus routes and driver schedules for more than 60 routes based on passenger data and driver suggestion. This apparently has resulted in improved punctuality.
- In 2002-03, the on-time record for VTA light rail returned to 90 percent, after falling to 84 percent in 2001-02. The low on-time performance in 2002 was due to a track improvement program in FY 2001-02.
- Muni's on-time record, while still the lowest among the large Bay Area transit operators, continued to inch upward in 2003 – despite a stricter definition of on-time and a challenging operating environment (high ridership, numerous stop lights, heavy urban traffic, and high service frequencies).
- VTA buses, Caltrain and BART continued to offer punctual service, with on-time records better than 90 percent.

On-Time Performance of Seven Largest Bay Area Transit Operators, Fiscal Years 1998-99 – 2002-03

	Percent of Trips on Time by Fiscal Year					
	1998-99	1999-2000	2000-01	2001-02	2002-03	2002-03 Goal
Buses						
Valley Transportation Authority (VTA)[1]	94%	94%	93%	95%	95%	95%
Golden Gate Transit[2]	88%	87%	85%	87%	85%	90%
SamTrans[3]	85%	85%	85%	84%	84%	85%
AC Transit[4]	73%	73%	69%	74%	81%	90%
Muni (electric trolley bus)[5]	54%	NA	64%	74%	74%	85%
Muni (motor bus)[5]	57%	NA	63%	68%	70%	85%
Rail						
Caltrain[6]	88%	66%	86%	96%	95%	95%
BART[7]	92%	92%	92%	93%	92%	95%
VTA[8]	91%	91%	93%	84%	90%	95%
Muni[5]	43%	NA	49%	66%	67%	85%

Sources: AC Transit, Golden Gate Transit, Muni, SamTrans, VTA, Caltrain, BART

Notes:

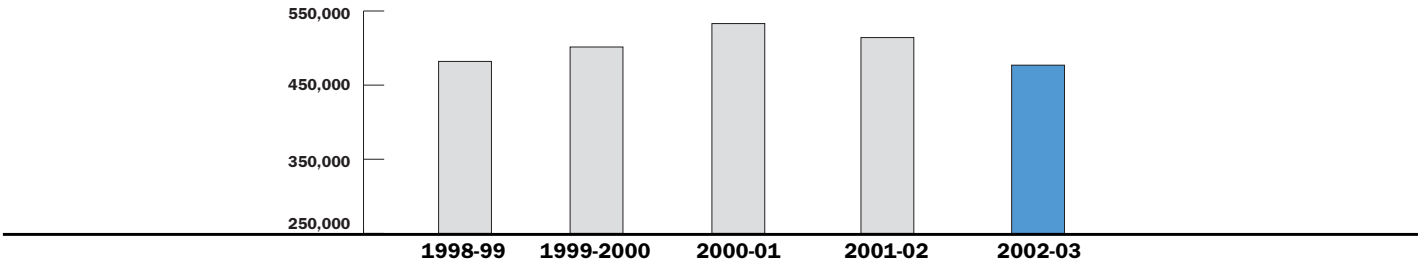
[1] No more than 5 minutes late
[2] Less than 5 minutes late and 1 minute early (bus only); prior to 2001-02, no more than 5 minutes late.
[3] No more than 5 minutes late; prior to 2001-02, no more than 5 minutes late or 1 minute early
[4] Never early and no more than 5 minutes late
[5] No more than 4 minutes late or 1 minute early; prior to 1998-99, no more than 3 minutes late or 1 minute early
[6] Train arrived at the end of the station within 5 minutes of scheduled time
[7] Less than 5 minutes late at scheduled terminal stations
[8] No more than 3 minutes late
[9] Train arrived at the end of the station within 5 minutes of scheduled time

Economic Slowdown Continues to Impact Transit Ridership

- Transit ridership suffered its second straight annual decline in FY 2002-03, as the number of annual boardings slipped to about 479 million, a 7 percent decrease from the prior year.
- Transit ridership in the Bay Area has retreated a cumulative 10 percent since peaking at 533 million annual boardings in 2000-01. This trend is attributed to the economic slowdown in the Bay Area following the bursting of the dot-com bubble several years ago.
- All of the region's largest operators experienced ridership declines in 2002-03, ranging from 3 percent drops for Caltrain and SamTrans to a hefty 13 percent decrease for VTA. Muni's ridership dropped off by 17 million daily boardings (7 percent), accounting for almost half the total regionwide falloff in 2002-03.
- BART is the only large Bay Area transit operator whose service, although down 4 percent from the prior year, remained above 1998-99 levels.
- Though all of the large operators suffered ridership declines in FY 2002-03, VTA and Golden Gate were the only large operators forced by revenue shortfalls to significantly cut services – by 9 percent in the case of VTA and by 4 percent in the case of Golden Gate. Other operators managed to stave off service cuts in 2002-03.
- Smaller operators who provide services to communities in suburban East Bay and North Bay communities saw their ridership decline only 5 percent. Ridership on these services has increased 20 percent since 1998-99, possibly because these communities were less severely hit by the economic downturn.

Ridership on Bay Area Transit Systems by Operator, Fiscal Years 1998-99 – 2002-03

	Thousands of Annual Boardings					Percent Change	
Operator	**1998-99**	**1999-2000**	**2000-01**	**2001-02**	**2002-03**	**2001-02–2002-03**	**1998-99–2002-03**
Muni	217,050	226,182	236,205	234,303	216,947	–7%	0%
BART	86,488	97,024	103,919	97,351	93,799	–4%	+8%
AC Transit	66,089	68,088	71,529	69,531	62,755	–10%	–5%
Valley Transportation Authority	54,996	55,701	58,160	53,710	46,864	–13%	–15%
SamTrans	18,350	17,925	18,136	17,387	16,859	–3%	–8%
Golden Gate Transit	11,108	11,465	11,618	10,676	10,261	–4%	–8%
Caltrain	8,622	8,735	9,925	8,138	7,870	–3%	–9%
Other Operators	19,282	20,986	23,546	24,460	23,232	–5%	+20%
Total – All Operators	**481,986**	**506,106**	**533,038**	**515,556**	**478,587**	**–7%**	**–1%**



Source: Metropolitan Transportation Commission and Federal Transit Administration.

Data for FY 2002-03 is provisional.

A Closer Look at Top 10 Ridership Bus Routes, by Boardings

- There is a large degree of year-to-year consistency in the list of the most heavily used Bay Area bus routes.
- Nine of the routes are operated by San Francisco Muni.

Top 10 Bay Area Bus Routes, by Boardings

Rank	Route	Average Weekday Boardings 2002-03	2001-02 Rank
1.	SF Muni: 38 Geary	48,900	1
2.	SF Muni: 14 Mission	42,900	2
3.	SF Muni: 9 San Bruno	29,200	4
	SF Muni: 49 Van Ness/Mission	29,200	5
5.	SF Muni: 1 California	27,300	3
6.	SF Muni: 30 Stockton	24,300	6
	SF Muni: 15 Third St.	24,300	7
8.	Valley Transportation Authority: 22 Eastridge – Palo Alto/Meno Park	22,700	8
9.	SF Muni: 22 Fillmore	21,000	10
10.	SF Muni: 45 Union/Stockton	15,800	NA

Sources: Muni, VTA

Safety

One of the goals of MTC's long-range Transportation 2030 Plan is to improve safety for all users of the transportation system — drivers and passengers, transit users, bicyclists and pedestrians.

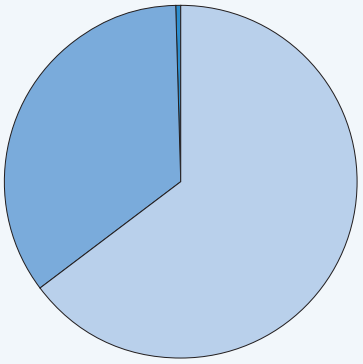
This report uses statistics on injury and fatal collisions to gauge roadway safety. The most widely used safety information on motor vehicle (automobile, truck or motorcycle) collisions with automobiles, bicyclists and pedestrians comes from data assembled by the California Highway Patrol.

In 2002, the Federal Transit Administration shifted to a new reporting system that requires transit operators to submit more frequent and more comprehensive reports on transit safety. While the new requirements promise ultimately to improve the quality of information, the safety statistics collected by FTA during the transition period appear to be incomplete. We have therefore decided not to include data on transit-related injuries and fatalities in the 2004 *State of the System* report.

Injury Collisions Drop, but Fatalities Increase

- The total number of injury and fatal motor vehicle collisions fell 5 percent to 35,557 in 2003, continuing the annual slide from a recent high of 40,053 in 2000. The number of collisions resulting in injury or fatality decreased 7 percent between 1999 and 2003.
- While total injury and fatal collisions have declined, the number of fatal collisions has risen each year to a five-year high of 468 in 2003. Over the period from 1999 to 2003, the number of fatal collisions rose a cumulative 16 percent.
- Nearly 65 percent of all reported collisions in 2003 involved property damage only (no people were injured or killed). Approximately 35 percent of all collisions resulted in injury, and 0.5 percent resulted in a fatality. These proportions are typical of Bay Area collision statistics in recent years.
- A variety of factors influence the number of collisions. These include: driver education and behavior, vehicle safety features, roadway conditions and traffic congestion and, total number of miles driven. Studies show that while freeway driving accounts for approximately 60 percent of all miles driven in the Bay Area, only about 25 percent of all collisions occur on freeways.

Motor Vehicle Collisions in the Bay Area In 2003: Fatal, Injury, Property Damage

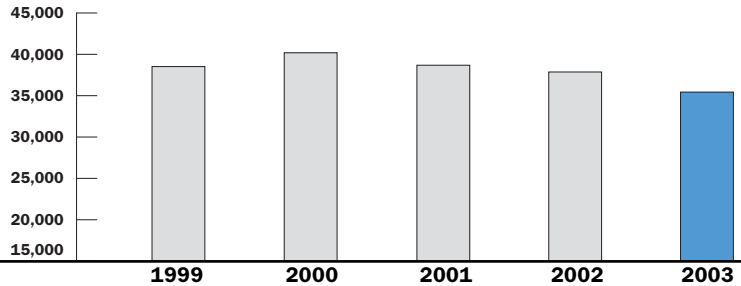


Fatal Collisions	**0.5%**
Injury Collisions	**34.8%**
Property Damage Only Collisions	**64.7%**

Source: California Highway Patrol. 100,750 collisions = 100%.

Injury and Fatal Collisions on Bay Area Roadways, 1999 – 2003

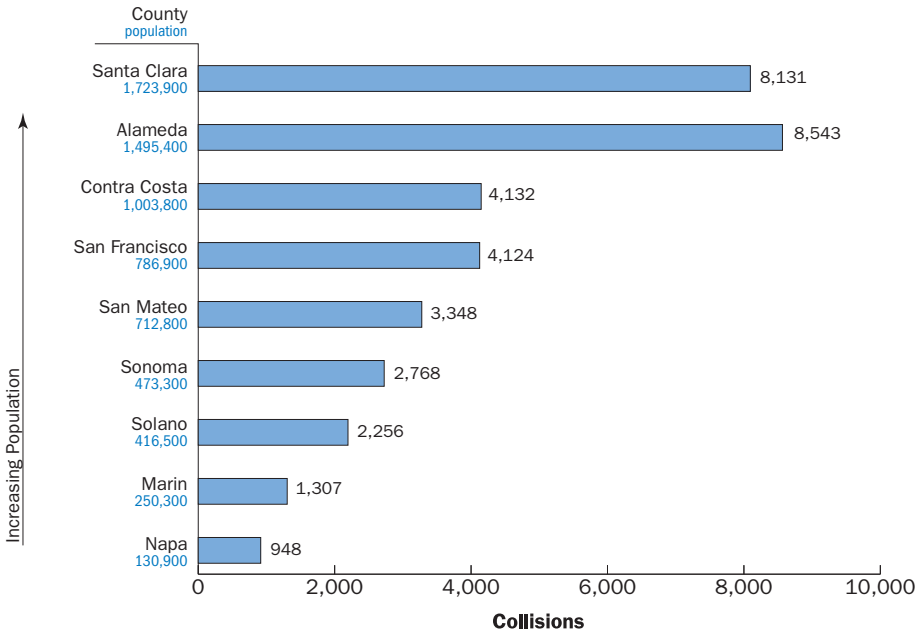
						Percent Change	
	1999	**2000**	**2001**	**2002**	**2003**	**2002–2003**	**1999–2003**
Injury Collisions	37,913	39,609	38,322	37,167	35,089	–6%	–7%
Fatal Collisions	405	444	449	451	468	+4%	+16%
Total Injury and Fatal Collisions	**38,318**	**40,053**	**38,771**	**37,618**	**35,557**	**–5%**	**–7%**



Source: California Highway Patrol and Federal Highway Administration

A Closer Look – We can get a rough idea of the geographical distribution of the injury and fatal collisions that occurred in 2003 by breaking them out by county of occurrence. In general, a given county's share of collisions correlates closely with its size, as measured by population (see bar graph). Alameda County and San Francisco both exhibit a collision rate higher than their population rank. This may be due to their status as "crossroads" counties, where a significant portion of travel is by residents of other areas.

Injury and Fatal Collisions by Bay Area County, 2003



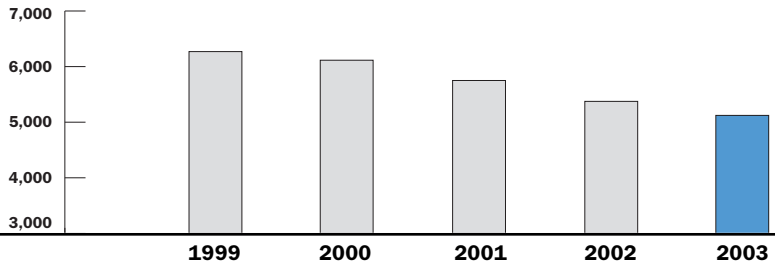
Sources: California Highway Patrol, California Department of Finance

Fewer Collisions Involving Bicyclists and Pedestrians Than in Recent Years

- Data collected by the California Highway Patrol shows the number of injury and fatal motor vehicle collisions involving pedestrians or bicyclists continued to trend downward in 2003, as it has each year since 1999.
- In fact, the statistics show injury and fatal collisions involving bicyclists or pedestrians decreased in all categories between 2002 and 2003.
- As is typical of recent years, just over half (2,844) of the 5,112 injury and fatal collisions in 2003 involved pedestrians. And fatal collisions are more likely to involve pedestrians than cyclists reflecting the fact that walking is a more common mode of transport than bicycling.
- The 5,112 injury and fatal collisions involving pedestrians or cyclists represents 14 percent of all injury and fatal motor vehicle collisions featured in the previous section. The 118 fatal collisions involving pedestrians or cyclists represent a quarter of all fatal motor vehicle collisions.
- While the downward trend shown here is encouraging, the absolute numbers are small and year-to-year fluctuations – or even a five-year trend – can be magnified when viewed in percentage terms.
- These data include only motor vehicle collisions reported to law enforcement authorities. There may be a significant number of injury collisions involving pedestrians and cyclists that are not reported and that would make these totals higher.

Injury and Fatal Motor Vehicle Collisions Involving Pedestrians or Bicyclists, 1999 – 2003

	Collisions					Percent Change	
	1999	2000	2001	2002	2003	2002–2003	1999–2003
Collisions Involving Pedestrians							
Injury Collisions	3,099	3,173	3,080	2,910	2,740	–6%	–12%
Fatal Collisions	97	134	103	111	104	–6%	+7%
Subtotal	3,196	3,307	3,183	3,021	2,844	–6%	–11%
Collisions Involving Bicyclists							
Injury Collisions	3,066	2,810	2,566	2,321	2,254	–3%	–26%
Fatal Collisions	19	17	20	19	14	–26%	–26%
Subtotal	3,085	2,827	2,586	2,340	2,268	–3%	–26%
Total Involving Bicyclists or Pedestrians	**6,281**	**6,134**	**5,769**	**5,361**	**5,112**	**–5%**	**–19%**



Source: California Highway Patrol

A Closer Look at Injury and Fatal Motor Vehicle Collisions Involving Pedestrians and Cyclists by Bay Area Jurisdiction

- In the absence of better data on where and how much people are walking and bicycling in the Bay Area, we can look for patterns based on population by jurisdiction. There is generally a strong correlation between population rank and rank in pedestrian- or bicycle-involved collisions. (For this reason, there is a great deal of consistency from year to year in the jurisdictions with the highest number of pedestrian- and bicycle involved collisions.)

- There are some notable exceptions, however, that may be explained by factors such as travel patterns, demographics and daytime population:

  - Berkeley, which ranks 14th in population has the fourth-most collisions involving pedestrians and the 3rd most collisions involving bicyclists. This likely reflects the relatively high level of walking and bicycling in this university-centered, environmentally aware community. Berkeley also has a higher daytime population due to the university, which attracts large number of students and workers.

  - The cities of Vallejo and Richmond rank 12th and 17th in terms of population but 7th and 9th when it comes to pedestrian injuries and fatalities. Compared to other Bay Area communities, these cities have a greater percentage of youths under 18 and a greater share of persons living in poverty. Both factors tend to correlate with a higher level of pedestrian activity.

  - When it comes to bicycles, Mountain View, Redwood City and Palo Alto all rank higher in terms of collisions than they do in population. These cities all have large daytime populations of workers (or students in the case of Palo Alto). In addition, the residents of all three cities are more likely than most Bay Area residents to commute to work on bike according to data collected by the 2000 Census.

Injury and Fatal Motor Vehicle Collisions Involving Pedestrians And Bicyclists by Bay Area Jurisdiction, 2003

PEDESTRIANS

2003 Rank	Jurisdiction	Total 2003	Annual Average 1998–2002	Rank in Population
1	San Francisco	822	934	2
2	Oakland	307	295	3
3	San Jose	306	361	1
4	Berkeley	126	113	14
5	Hayward	61	78	8
6	San Mateo	57	46	21
7	Vallejo	56	48	12
8	Santa Rosa	49	57	6
9	Richmond	48	54	17
10	Unincorporated Alameda	43	57	9

BICYCLISTS

2003 Rank	Jurisdiction	Total 2003	Annual Average 1998–2002	Rank in Population
1	San Francisco	316	379	2
2	San Jose	249	328	1
3	Berkeley	143	143	14
4	Oakland	132	167	3
5	Palo Alto	61	78	36
6	Fremont	59	65	4
7	Santa Rosa	57	83	6
8	Mountain View	49	50	27
9	Redwood City	44	41	25
10	Concord	39	56	11

Source: California Highway Patrol, California Department of Finance.

Injury and Fatal Motor Vehicle Collisions Involving Bicyclists and Pedestrians by Bay Area Jurisdiction, 2003

Injury and Fatal Motor Vehicle Collisions Involving Bicyclists and Pedestrians by Bay Area Jurisdiction, 2003

	PEDESTRIAN-INVOLVED COLLISIONS				BICYCLE-INVOLVED COLLISIONS			
JURISDICTION	2003 INJURY	2003 FATAL	2003 INJURY and FATAL	1998–2002 ANNUAL AVG. INJURY and FATAL	2003 INJURY	2003 FATAL	2003 INJURY and FATAL	1998–2002 ANNUAL AVG. INJURY and FATAL
Alameda County								
Alameda	35	0	35	33	20	0	20	34
Albany	7	0	7	7	9	0	9	7
Berkeley	125	1	126	113	143	0	143	143
Dublin	6	1	7	5	4	0	4	5
Emeryville	3	0	3	9	1	1	2	6
Fremont	39	3	42	68	59	0	59	65
Hayward	58	3	61	78	25	1	26	58
Livermore	13	0	13	21	24	0	24	34
Newark	6	0	6	10	11	0	11	11
Oakland	294	13	307	295	131	1	132	167
Piedmont	0	0	0	2	2	0	2	1
Pleasanton	10	0	10	12	17	0	17	17
San Leandro	18	1	19	37	16	0	16	24
Union City	16	1	17	14	11	0	11	11
Unincorporated Alameda County	42	1	43	57	38	0	38	38
Alameda County Total	**672**	**24**	**696**	**763**	**511**	**3**	**514**	**620**
Contra Costa County								
Antioch	16	1	17	23	17	0	17	23
Brentwood	7	0	7	7	6	0	6	5
Clayton	0	0	0	1	0	0	0	1
Concord	35	0	35	42	38	1	39	56
Danville	7	1	8	5	8	1	9	12
El Cerrito	14	2	16	14	6	0	6	11
Hercules	2	0	2	2	1	0	1	0
Kensington	1	0	1	1	3	0	3	1
Lafayette	4	0	4	4	6	0	6	5
Martinez	6	0	6	7	9	0	9	6
Moraga	3	0	3	1	1	0	1	2
Oakley	5	0	5	1	4	0	4	2
Orinda	1	0	1	4	2	0	2	2
Pinole	5	1	6	7	2	0	2	4
Pittsburg	11	0	11	18	9	0	9	7

Injury and Fatal Collisions Involving Bicyclists and Pedestrians, 2003 (continued)

JURISDICTION	PEDESTRIAN-INVOLVED COLLISIONS				BICYCLE-INVOLVED COLLISIONS			
	2003 INJURY	2003 FATAL	2003 INJURY and FATAL	1998–2002 ANNUAL AVG. INJURY and FATAL	2003 INJURY	2003 FATAL	2003 INJURY and FATAL	1998–2002 ANNUAL AVG. INJURY and FATAL
Pleasant Hill	13	1	14	12	12	0	12	20
Richmond	46	2	48	54	27	0	27	33
San Pablo	15	3	18	22	10	0	10	11
San Ramon	3	1	4	6	3	0	3	7
Walnut Creek	25	0	25	20	28	0	28	27
Unincorporated Contra Costa Co.	21	2	23	39	31	0	31	39
Contra Costa County Total	**240**	**14**	**254**	**287**	**223**	**2**	**225**	**277**
Marin County								
Belvedere	0	0	0	0	1	0	1	0
Corte Madera	2	0	2	3	8	0	8	10
Fairfax	2	0	2	2	5	0	5	4
Larkspur	4	0	4	3	12	1	13	4
Mill Valley	4	0	4	6	4	0	4	5
Novato	16	0	16	16	18	0	18	25
Ross	0	0	0	1	1	0	1	1
San Anselmo	6	0	6	6	2	0	2	9
San Rafael	29	0	29	37	21	0	21	44
Sausalito	4	0	4	3	13	0	13	17
Tiburon	0	0	0	1	1	0	1	2
Unincorporated Marin County	12	0	12	12	33	0	33	36
Marin County Total	**79**	**0**	**79**	**89**	**119**	**1**	**120**	**156**
Napa County								
American Canyon	0	0	0	1	4	0	4	2
Calistoga	1	0	1	2	0	0	0	2
Napa	26	0	26	29	36	0	36	38
Saint Helena	3	1	4	4	1	0	1	5
Yountville	4	0	4	1	0	0	0	0
Unincorporated Napa County	1	0	1	3	9	0	9	13
Napa County Total	**35**	**1**	**36**	**40**	**50**	**0**	**50**	**61**
San Francisco (City and County)								
San Francisco Total	**795**	**27**	**822**	**934**	**315**	**1**	**316**	**379**

Injury and Fatal Collisions Involving Bicyclists and Pedestrians, 2003 (continued)

JURISDICTION	PEDESTRIAN-INVOLVED COLLISIONS				BICYCLE-INVOLVED COLLISIONS			
	2003 INJURY	2003 FATAL	2003 INJURY and FATAL	1998–2002 ANNUAL AVG. INJURY and FATAL	2003 INJURY	2003 FATAL	2003 INJURY and FATAL	1998–2002 ANNUAL AVG. INJURY and FATAL
San Mateo County								
Atherton	4	0	4	2	6	0	6	5
Belmont	6	0	6	7	11	0	11	7
Brisbane	0	1	1	1	0	0	0	1
Burlingame	14	1	15	16	7	0	7	9
Colma	2	0	2	3	0	0	0	1
Daly City	27	1	28	39	8	1	9	10
East Palo Alto	17	0	17	23	18	0	18	14
Foster City	2	0	2	3	2	0	2	6
Half Moon Bay	3	0	3	4	7	0	7	5
Hillsborough	1	0	1	2	3	0	3	2
Menlo Park	12	1	13	17	10	0	10	21
Millbrae	5	1	6	7	3	0	3	4
Pacifica	12	0	12	8	3	0	3	4
Portola Valley	0	0	0	0	1	0	1	2
Redwood City	27	0	27	36	44	0	44	41
San Bruno	13	0	13	20	6	1	7	11
San Carlos	2	1	3	10	6	0	6	8
San Mateo	57	0	57	46	37	0	37	53
South San Francisco	27	2	29	26	15	1	16	19
Woodside	0	0	0	0	1	0	1	10
Unincorporated San Mateo Co.	8	0	8	15	26	0	26	37
San Mateo County Total	**239**	**8**	**247**	**286**	**214**	**3**	**217**	**270**
Santa Clara County								
Campbell	12	0	12	7	12	0	12	14
Cupertino	16	1	17	14	28	0	28	32
Gilroy	8	2	10	11	10	0	10	11
Los Altos	9	0	9	10	17	0	17	23
Los Altos Hills	0	0	0	0	10	0	10	5
Los Gatos	11	0	11	7	10	0	10	14
Milpitas	10	0	10	15	21	0	21	19
Monte Sereno	0	0	0	0	1	0	1	0

Injury and Fatal Collisions Involving Bicyclists and Pedestrians, 2003 (continued)

JURISDICTION	PEDESTRIAN-INVOLVED COLLISIONS 2003 INJURY	2003 FATAL	2003 INJURY and FATAL	1998–2002 ANNUAL AVG. INJURY and FATAL	BICYCLE-INVOLVED COLLISIONS 2003 INJURY	2003 FATAL	2003 INJURY and FATAL	1998–2002 ANNUAL AVG. INJURY and FATAL
Morgan Hill	2	2	4	5	7	0	7	8
Mountain View	20	1	21	22	49	0	49	50
Palo Alto	23	1	24	27	61	0	61	78
San Jose	295	11	306	361	249	0	249	328
Santa Clara	21	2	23	30	31	0	31	39
Saratoga	5	0	5	3	14	1	15	15
Sunnyvale	18	1	19	32	34	1	35	47
Unincorporated Santa Clara Co.	8	1	9	16	36	0	36	33
Santa Clara County Total	**458**	**22**	**480**	**560**	**590**	**2**	**592**	**716**
Solano County								
Benicia	5	1	6	7	2	0	2	6
Dixon	3	0	3	5	8	0	8	3
Fairfield	29	0	29	41	34	0	34	37
Rio Vista	0	0	0	1	2	0	2	1
Suisun City	1	0	1	6	5	0	5	6
Vacaville	9	0	9	15	12	0	12	21
Vallejo	54	2	56	48	25	0	25	33
Unincorporated Solano County	1	2	3	5	3	0	3	5
Solano County Total	**102**	**5**	**107**	**129**	**91**	**0**	**91**	**111**
Sonoma County								
Cloverdale	1	0	1	1	2	0	2	3
Cotati	2	0	2	3	0	0	0	4
Healdsburg	3	0	3	3	3	0	3	4
Petaluma	25	0	25	22	23	1	24	30
Rohnert Park	9	0	9	8	8	0	8	12
Santa Rosa	47	2	49	57	57	0	57	83
Sebastopol	8	0	8	5	9	0	9	7
Sonoma	2	0	2	7	3	0	3	5
Windsor	3	1	4	2	4	0	4	3
Unincorporated Sonoma County	20	0	20	28	32	1	33	41
Sonoma County Total	**120**	**3**	**123**	**136**	**141**	**2**	**143**	**191**
BAY AREA TOTAL	**2,740**	**104**	**2,844**	**3,223**	**2,254**	**14**	**2,268**	**2,782**

State of Repair

The state of repair of freeways, local roadways and transit affects travelers in two respects. The more obvious impact is on the quality of travel. The second impact, which is not directly reflected in the indicators in this report, relates to cost. Letting roadways and transit vehicles fall into disrepair often ends up costing more than it would have cost to perform routine maintenance, just as deferring maintenance on a house often results in a more expensive repair.

For freeways and local roadways, pavement condition is used as an indication of the state of repair. The condition of the transit system is measured by the average distance vehicles are driven between vehicle breakdowns that cause a disruption in service; the unscheduled repairs are known as service breakdowns. In previous years, the *State of the System* report included statistics on the number of breakdowns per miles of transit service provided. In this report, we invert the measure to get the more commonly used statistic, the average number of miles of service between breakdowns.

Pavement Conditions Steady in 2003, but Deterioration Likely as Funding Falls Off

- In 2003, 26 percent of state-owned roadways (more than one in four miles) in the Bay Area had damaged or distressed pavement. Damaged and distressed pavement falls into three classes:
  - 18 percent of state-owned Bay Area roads fell into the category "Major Structural Distress". These roads have the most serious damage and are the most costly to repair because the structural segment under the pavement must be removed and replaced.
  - Another 6 percent fell into the category "Minor Structural Distress". These roads have significant cracks and can be repaired with a thick pavement overlay.
  - 2 percent of roads have cracks and potholes that result in bumpy ride but do not indicate structural deficiency. Roads in this category are considered to have "Poor Ride Quality Only" and can be treated with a relatively thin overlay to seal the pavement surface.

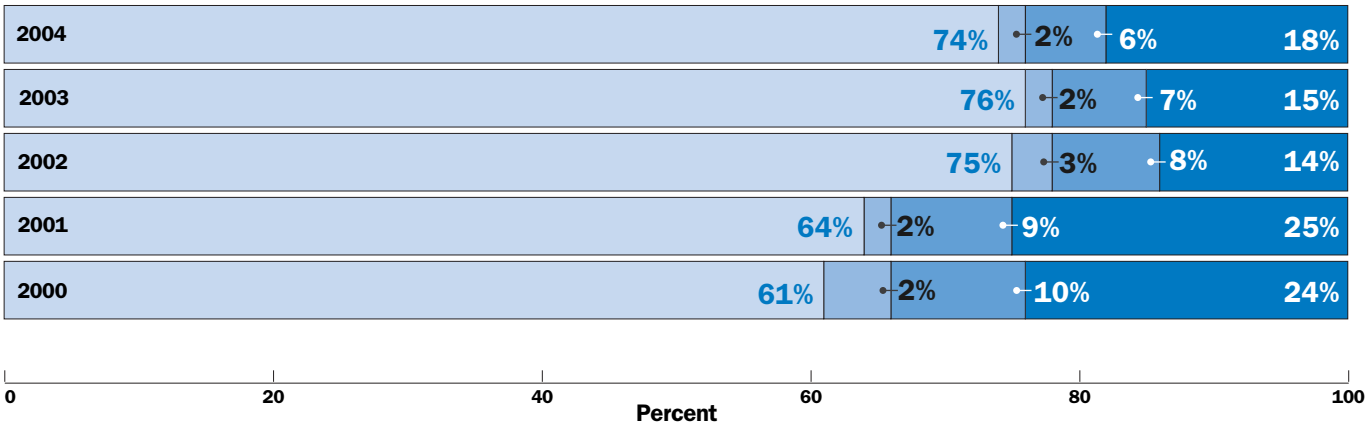
- Roadway condition was relatively stable from 2001 to 2003. Prior to 2001, state-owned road were in much poorer condition. In 1999, A full 39 percent of roads were damaged or distressed. The state significantly boosted funding for roadway maintenance in FY 2000-01, when the state coffers were flush, and was able to make significant progress in repairing damaged roads and performing preventive maintenance to slow pavement deterioration. Prior to 2001, the state typically invested less than $500 million annually in roadway rehabilitation. This investment rose to $846 million in FY 2000-01.

- Since 2001, less and less money has been available for roadway maintenance due to state budget shortfalls. (In FY 2002-03, just $188 million was available for roadway rehabilitation.) If this trend continues, state-owned roads are likely to spiral into a state of disrepair as funding will fall short of demand for rehabilitation.

Note:

State-owned roadways are commonly called state highways and include freeways, rural highways (such as Routes 1 along the Pacific Coast, 29 in Napa and 116 in Sonoma) and state-owned urban and suburban arterials (such as San Pablo Avenue in Alameda and Contra Costa counties and Skyline Boulevard in San Mateo County). There are 1,370 miles of state-owned roads in the Bay Area.

Pavement Conditions for Bay Area State Highways, 1999–2003



- **No Distress**
- **Poor Ride Quality Only**
  Pavements that exhibit moderate potholes and cracks, and can be treated with 1" to 2" thick overlays.
- **Minor Structural Distress**
  Pavements that exhibit poor condition with significant cracks. These pavements are candidates for rehabilitation.
- **Major Structural Distress**
  Pavements that exhibit poor condition with extensive cracks and often require reconstruction.

Source: Caltrans.

Includes state owned freeways and non-freeway roadways. Excludes state-owned bridges.
Total Bay Area lane miles in 1999 and 2000 was 5,920. Total in 2001, 2002 and 2003 was 5,960.

Bay Area Jurisdictions Falling Behind in Roadway Repairs; Some Bright Spots

- Typical pavement conditions on the Bay Area's roughly 19,000 miles of local streets and roads continued their slow but steady deterioration in 2003, with the average pavement condition index (PCI) score dropping to 63 (out of a possible 100) from 65 in 2002 and 66 in 2001.

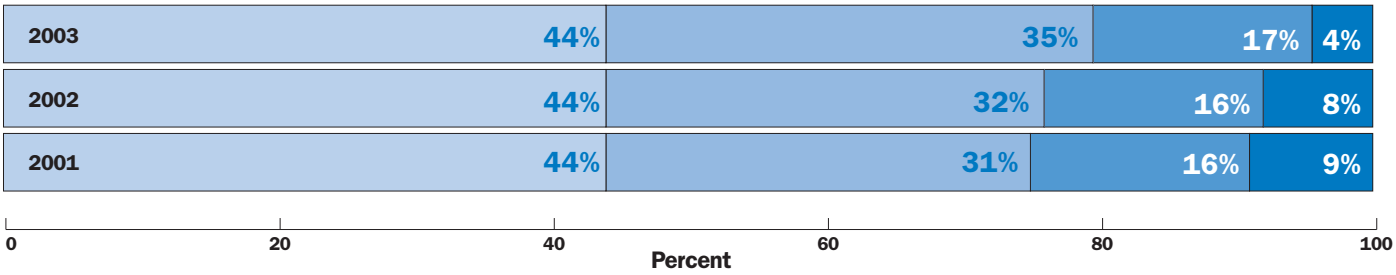
- The share of pavements rated "excellent" or "very good" remained steady at 44 percent of Bay Area roads in 2003. These roads require preventive maintenance only. Pavements in "good" or "fair" condition – which require some rehabilitation but are still drivable – increased to 35 percent from 32 percent a year earlier. Pavement in "poor" or "very poor" condition, which needs extensive rehabilitation, increased from 16 percent to 17 percent.

- The increases in pavement rated less than very good are small, but they are significant enough to tip the regional average downward. And while the average falls into the "good" category, it is sliding toward the lower end of this range.

- At present, the Bay Area is not spending the money needed to maintain the condition of its pavement over time. Tight city budgets – and the failure of the state to pass along road maintenance funds authorized by the voters in 2002 – have forced many jurisdictions into a "worst first" approach in which only the streets in the worst condition are repaired and preventive maintenance is foregone. This approach is increasingly expensive over time, since the cost of major repairs is about five times that of routine maintenance.

- MTC estimates a current, cumulative backlog of $2.9 billion for local street and road repairs in the Bay Area. This represents the cost of upgrading pavement to the point where it is cost-effective to maintain, typically when PCI scores fall within the range of 75 to 85.

Pavement Conditions for Local Roadways, 2001 – 2003 (total pavement miles)



Excellent (PCI = 90–100) or Very Good (PCI = 75–89)
Pavements that have no distress and require mostly preventive maintenance

Good (PCI = 60–74) or Fair (PCI = 45–59)
Pavements in this middle range offer acceptable ride quality, though road surfaces are becoming worn to the point where rehabilitation is needed to prevent rapid deterioration.

Poor (PCI = 25–44) or Very Poor (PCI = 0–24)
Pavements that have extensive amounts of distress and require major rehabilitation or reconstruction

No Data

2003 Bay Area PCI = 63
The regional PCI score is an average of the scores of all participating jurisdictions, weighted by centerline miles.

Source: Metropolitan Transportation Commission

97 cities and nine counties reporting

PCI = pavement condition index, a measure of pavement distress

55 of 106 jurisdictions provided updated databases to MTC for 2003. For other jurisdictions, MTC used its pavement management system software to project 2003 conditions based on the latest data available.

A Closer Look at Bay Area Jurisdictions with the Best and Worst Pavement Conditions

- The cities and counties with the best and worst average pavement conditions in 2003 are listed here.
- The cities of Belvedere and Dublin each made their first appearance in the top 10.
- The cities of Petaluma and Sausalito, which ranked near the bottom in previous reports no longer appear in the bottom 10.

A Closer Look – The Bay Area jurisdictions with the best and worst average pavement conditions are shown below. Often a jurisdiction's low average pavement condition rating is the result of a roadway maintenance budget that is insufficient to cover a backlog of needs.

Bay Area Jurisdictions With Best and Worst Pavement Conditions, 2003

Best		2003 PCI[1] (out of 100)
1.	Oakley	87
2.	City of Santa Clara	86
	Contra Costa County (unincorporated)	86
4.	Sunnyvale	84
5.	Los Altos	83
6.	Brentwood	82
	Belvedere	82
8.	Dublin	81
9.	Fairfield	80
10.	**Foster City**	**79**

Worst		2003 PCI (out of 100)
96	Larkspur	55
	San Mateo	55
	City of Napa	55
	Half Moon Bay	55
100	Vallejo	54
101	Marin County (unincorporated)	53
	Richmond	53
103	Monte Sereno	52
104	Colma	50
	Hillsborough	50
106	Sonoma County (unincorporated)	47

Source: Metropolitan Transportation Commission

106 of 109 jurisdictions reporting

[1] PCI = pavement condition index; PCI of 100 = Excellent

Pavement Condition of Bay Area Jurisdictions, 2003

Pavement Condition Index (PCI) for Bay Area Jurisdictions

2003 Average PCI	Jurisdiction	2002 Average PCI
Very Good		
87	Oakley	82
86[1]	City of Santa Clara	86
86	Contra Costa County (unincorporated)	83
84[1]	Sunnyvale	82
83	Los Altos	84
82[1]	Brentwood	85
82	Belvedere	73
81[1]	Dublin	67
80	Fairfield	81
79	Foster City	82
78	Campbell	80
78	Concord	78
77	American Canyon	63
76	Newark	75
76[1]	Windsor	75
75	Danville	79
75	Livermore	79
75[1]	Pinole	78
75	Alameda County (unincorporated)	74
75	Mountain View	74
Good		
74	San Ramon	75
74	Redwood City	74
74[1]	Orinda	72
74[1]	City of Sonoma	70
73[1]	Vacaville	81
73[1]	Gilroy	75
73	Santa Clara County (unincorporated)	64
72	Fremont	77
72[1]	Morgan Hill	72
72	Antioch	69
72	Pacifica	67

2003 Average PCI	Jurisdiction	2002 Average PCI
Good		
71	Los Altos Hills	72
71[1]	San Carlos	68
70[1]	South San Francisco	76
70[1]	Benicia	74
70[1]	Dixon	73
70	Cupertino	72
70	Daly City	72
70	Clayton	70
69[1]	Emeryville	77
69[1]	Los Gatos	72
69[1]	Brisbane	69
69	Milpitas	69
69[1]	Rohnert Park	69
68	City of Alameda	75
68	Atherton	70
68	Portola Valley	69
68[1]	Cotati	67
67[1]	Cloverdale	69
67	Piedmont	66
67	San Jose	66
66	Yountville	71
66	Novato	68
66[2]	Healdsburg	65
66[1]	Hercules	64
65	Corte Madera	70
65	Hayward	69
65[1]	Pleasanton	68
65[1]	Saratoga	67
65[3]	City and County of San Francisco	66[4]
65	Santa Rosa	66
65[1]	Burlingame	62
64[1]	San Bruno	65
64[1]	San Pablo	63

Pavement Condition Index (PCI) for Bay Area Jurisdictions (continued)

2003 Average PCI	Jurisdiction	2002 Average PCI
Good		
64[1]	Woodside	63
64	Petaluma	48
63	Millbrae	NA
63	San Rafael	NA
63	San Leandro	64
63[1]	Calistoga	62
63	San Mateo County (unincorporated)	62
63[1]	Berkeley	59
62	Belmont	63
62[1]	Mill Valley	63
62[1]	Ross	63
62[1]	East Palo Alto	62
61	Pleasant Hill	76
61	Tiburon	72
61	Martinez	71
61[1]	Suisun City	63
61[1]	Moraga	62
61[1]	San Anselmo	62
61[1]	Sausalito	56
60	Solano County (unincorporated)	66
60[1]	Rio Vista	62
Fair		
59[1]	Napa County (unincorporated)	64
59[1]	Albany	60
58[1]	Fairfax	61
58[1]	Sebastopol	61
58[1]	Menlo Park	59
58[1]	Pittsburg	58
58	El Cerrito	52
57[1]	St. Helena	61
57	Lafayette	59
57[1, 3]	Oakland	NA
Fair		
55	Larkspur	NA
55[1]	San Mateo	56
55	City of Napa	49
55[1]	Half Moon Bay	48
54[1]	Vallejo	57
53	Marin County (unincorporated)	54
53	Richmond	53
52	Monte Sereno	53
50	Colma	67
50	Hillsborough	65
47	Sonoma County (unincorporated)	50
No Data		
NA	Palo Alto	NA
NA	Union City	NA
NA	Walnut Creek	NA

Source: Metropolitan Transportation Commission

2003 PCI scores based on pavement databases updated in 2003 unless noted.

2002 PCI scores based on inspections done between 1999 and 2002.

[1] PCI score is an estimate based on inspections done between 2000 and 2002.

[2] PCI score is based on inspections done in 1999.

[3] Score has been correlated to the PCI scale from an alternate pavement management system.

[4] Jurisdiction uses an alternate pavement management system in which scoring scale is comparable with PCI.

NA = not available

Emergency Transit Repairs Increased in 2002-03 Despite Improvement in Rail Performance

- Reliability of the six largest transit operators worsened in 2003, as the average distance between service calls fell 15 percent to 5,990 miles for buses and rail combined. (A service call occurs when a transit bus or train requires repair and cannot complete scheduled service.)
- The decline in overall reliability is attributable to a rise in the rate of breakdowns for buses. In FY 2002-03, buses averaged just 5,760 miles between service calls, a drop of 19 percent compared to their record in FY 2001-02.
- Rail services, on the other hand, improved their reliability record with the average distance between service calls rising to 7,250 miles between service calls, 12 percent above their FY 2001-02 records.

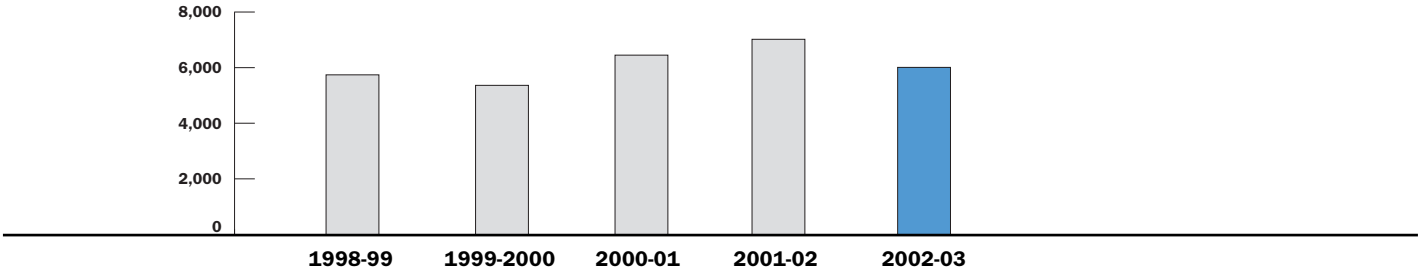
Note:

Reliability improves as the average number of miles between service calls increases. This measure differs from the measure, service calls per million miles of service, reported in past years.

Prior to 2000-01, service calls included some situations where repairs are needed and the vehicle is able to complete its scheduled service. Starting in 2000-01, the term service calls defines situations where the vehicle is not able to complete its scheduled trip.

Service Calls — Six Largest Bay Area Transit Operators, Fiscal Years 1998-99 – 2002-03

	Average Miles Between Service Calls						
	1998-99	1999-2000	2000-01	2001-02	2002-03	FY 2001-02–2002-03	FY 1998-99–2002-03
Rail[1]	7,720	7,080	6,920	6,470	7,250	+12%	–6%
Bus[2]	5,360	5,020	6,310	7,150	5,760	–19%	+7%
Rail and Bus	**5,720**	**5,340**	**6,410**	**7,040**	**5,990**	**–15%**	**+5%**



Source: Federal Transit Administration

[1]Includes BART, VTA light rail, Muni light rail

[2]Includes AC Transit, SamTrans, Muni, Valley Transportation Authority (VTA), Golden Gate Transit

Average is weighted by revenue vehicle miles of service.

Data for FY 2002-03 is provisional.

Airports and Seaports

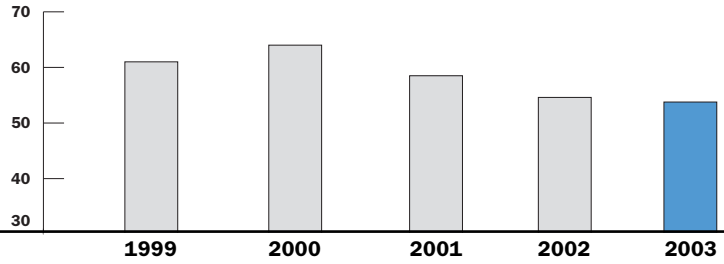
The Bay Area has three major airports (San Francisco International Airport, Oakland International Airport and San Jose International Airport) and five major seaports (San Francisco, Oakland, Redwood City, Benicia and Richmond). Airports and seaports are included in this report because they serve as regional gateways and generate considerable ground traffic by cars, trucks and rail. Statistics on air passengers and air and marine cargo are presented to track changes in traffic generated by airports and seaports.

Growth in Oakland Airport Passengers Can't Offset Continued Slowdown at Other Bay Area Airports

- The number of air passengers and tonnage of air cargo passing through Bay Area airports declined for the third straight year in 2003, caused largely by the regional economy's painfully slow recovery from its hard landing in early 2001. In the case of air passenger travel, the fear of terrorism after September 11, 2001 contributed as well.
- The rate of descent, however, was less steep in 2003, which may signal that flight patterns have begun to stabilize.
- Air passenger traffic at Oakland International Airport increased 6 percent to 13.5 million in 2003 from 12.7 million in 2002. Passenger traffic at Oakland airport, which grew 37 percent from 1999 to 2003, was the only growth sector of the air transport market during the period analyzed. Cargo volume at the Oakland Airport dipped 5 percent to 682,000 tons in 2003.
- Passenger traffic at San Francisco International Airport, which accounts for more than half the region's airline traffic and about 90 percent of all international air traffic in the Bay Area, fell 6 percent in 2003 after dropping 9 percent the previous year and 15 percent in 2001.
- Passenger and cargo traffic at San Jose International Airport both fell to five-year lows in 2003.

Air Passengers at Bay Area Airports, 1999 – 2003

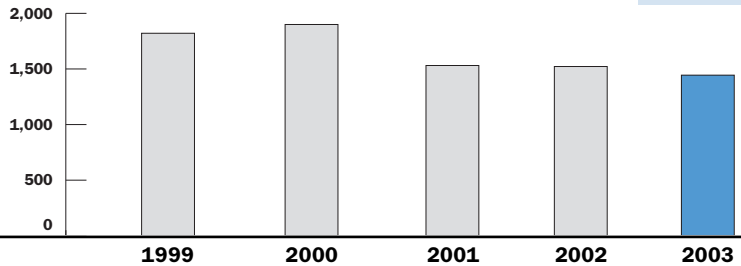
	Millions of Passengers[1]					Percent Change	
Airport	**1999**	**2000**	**2001**	**2002**	**2003**	**2002–2003**	**1999–2003**
San Francisco	39.5	40.3	34.0	30.8	28.8	–6%	–27%
Oakland	9.9	10.6	11.4	12.7	13.5	+6%	+37%
San Jose	11.6	13.1	13.1	11.1	10.7	–4%	–8%
Total	**61.0**	**64.0**	**58.5**	**54.6**	**53.0**	**–3%**	**–13%**



Sources: Port of Oakland, San Jose International Airport, San Francisco International Airport.
[1]Measured by enplanements and deplanements.

Air Cargo at Bay Area Airports, 1999 – 2003

	Thousands of Tons of Cargo[1]					Percent Change	
Airport	**1999**	**2000**	**2001**	**2002**	**2003**	**2002–2003**	**1999–2003**
Oakland	755	775	671	717	682	–5%	–10%
San Francisco	929	962	701	650	632	–3%	–32%
San Jose	143	163	159	155	120	–22%	–16%
Total	**1,827**	**1,900**	**1,531**	**1,522**	**1,434**	**–6%**	**–21%**



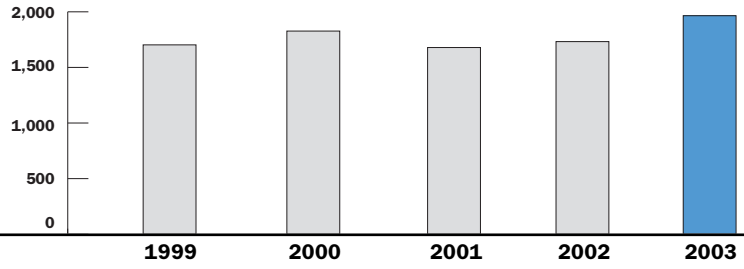
Sources: Port of Oakland, San Jose International Airport, San Francisco International Airport
[1]One ton = 2,000 pounds

Port of Oakland Responsible for Growth in Container Freight; Bulk Freight Continues to Slump

- As in past years, the marine container market grew in 2003 while the marine bulk cargo sector slumped. There were positive trends in both markets, however, with stronger container growth and a less pronounced decline in bulk compared to 2002.
- Marine container cargo at Bay Area ports increased 12 percent in 2003, exhibiting much stronger growth than the 3 percent increase from 2001 to 2002. All of the growth occurred at the Port of Oakland, where the number of containers processed grew 13 percent in 2003. From 1999 to 2003, container traffic increased 16 percent at the Port of Oakland. Goods imported in containers include electronics, toys and cloth. Container exports include agriculture products, scrap metal, waste paper and electronics from the Silicon Valley. The Port of Oakland is the nation's fourth-busiest container port.
- Over the period from 1999 to 2003, bulk cargo volumes fell 16 percent regionwide, due largely to dampened activity at the ports of Richmond and Oakland.
- Bulk cargo in the Bay Area declined 5 percent from 2002 to 2003, an improvement over the 9 percent fall from 2001 to 2002. The Port of Redwood City, with a 49 percent increase in bulk freight, was the only Bay Area port to experience growth in this sector. This robust growth, which reflects an increase in shipping of building materials (imported) and scrap metal (exported), was not enough to offset the drop in cargo at other ports, as Redwood City accounts for only 6 percent of all Bay Area marine bulk cargo.
- The Port of Richmond, where bulk cargo volume fell 8 percent in 2003, suffered from the effects of a dropoff in steel imports. Bulk cargo at the Port of Oakland held steady at about 1,440 tons in 2003.

Container Marine Cargo at Bay Area Seaports, 1999 – 2003

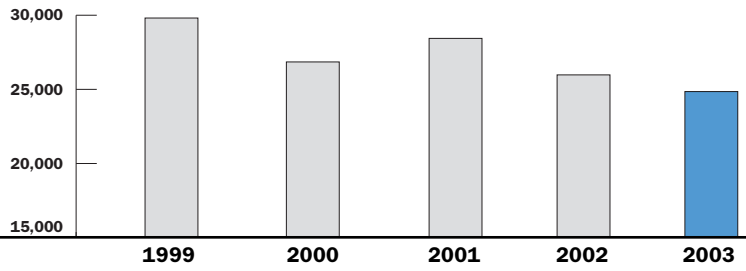
	Thousands of TEU[1] Containers					Percent Change	
Seaport	**1999**	**2000**	**2001**	**2002**	**2003**	**2002–2003**	**1999–2003**
Oakland	1,664	1,777	1,644	1,708	1,923	+13%	+16%
San Francisco	40	50	35	24	21	–11%	–47%
Total	**1,704**	**1,827**	**1,679**	**1,732**	**1,944**	**+12%**	**+14%**



Sources: Ports of Oakland and San Francisco
[1]TEU = Twenty-foot equivalent

Bulk Marine Cargo at Bay Area Seaports 1999 – 2003

	Thousands of Tons of Bulk Cargo					Percent Change	
Seaport	**1999**	**2000**	**2001**	**2002**	**2003**	**2002–2003**	**1999–2003**
Richmond	25,167	22,541	24,185	21,977	20,269	–8%	–19%
Redwood City	1,045	1,103	1,124	1,016	1,509	+49%	+44%
Oakland	2,080	1,861	1,902	1,445	1,441	0%	–31%
San Francisco	937	942	925	1,379	1,364	–1%	+46%
Benicia	389	405	497	316	307	–3%	–21%
Total	**29,618**	**26,851**	**28,633**	**26,133**	**24,890**	**–5%**	**–16%**



Sources: Ports of Benicia, Oakland, Redwood City, Richmond, San Francisco
Note: One ton = 2,000 pounds

Appendix A:
Notes on Data Collection

NOTES ON DATA COLLECTION

This compendium of key data on the state of the Bay Area transportation system is intended to provide the best snapshot possible, given existing information collected by Bay Area transportation agencies. Because the data have been gathered by multiple sources, responding to varying requirements, differences exist with respect to methodology, frequency, time period covered, level of detail and other variables. Following are some general comments, plus specific discussions of data by category.

Time Period Covered

Most data is collected and reported by calendar year (January 1 to December 31). Transit data is collected and reported by state fiscal year (July 1 to June 30), as is the custom for accounting purposes. Every effort was made to assemble consistent data for the five-year period 1999 through 2003 (or, for data collected by fiscal year, 1998-99 through 2002-03).

Future Data Collection

In the future, the authors expect to collect supplemental data to fill gaps in the existing data. For example, traffic volumes on local roadways are not included in this report. While individual cities and counties collect traffic counts for various purposes, there is little consistency among jurisdictions in the timing or location of data collection. As a result, it is extremely difficult to aggregate the data and summarize it at the regional level. In 2003, MTC began to collect traffic volumes on a selected set of local roadways at county borders to establish a trend line.

Additionally, emerging technologies are beginning to make more complete data available and promise to contribute even more significantly in the future. Examples of emerging data collection technologies that are expected eventually to improve data in future reports include the following.

- Sensors embedded in the pavement and on the roadside of many Bay Area freeways already continuously count vehicles and monitor travel speeds on freeways. Automated data from these sensors is available 24 hours a day, 365 days a year, giving us a much more accurate understanding of roadway conditions compared to areas not yet equipped with sensors where traffic counts are taken just a few days a year. Caltrans has developed the ability to use traffic data from these sensors to measure traffic congestion continuously. Currently traffic congestion data is collected just a few, "typical" days a year due to the high costs of the current data collection method in which Caltrans employees drive specially equipped vehicles over congested segments of Bay Area freeways.

- In March 2004, the 511 Driving Times℠ system began using FasTrak™ electronic toll tags installed in autos and trucks to estimate the time it takes to travel between fixed points on the freeway, 24 hours a day, 365 days a year. Current information on freeway travel time reflects typical weekday conditions when no collisions occur. With this data it will be possible to measure variation in travel time on weekdays and weekends and account for congestion caused by road construction and collisions.

- Cities are deploying "smart" traffic signal systems that continuously count vehicles on local roadways. These systems are deployed on only a small subset of streets, however, so most traffic counts on local roadways will continue to be done by traditional methods on an occasional basis.

- Transit fleet-management systems will track the times that buses and trains arrive and depart transit stops. By comparing these times to transit schedules, the systems will generate more complete on-time performance statistics.

Data Collection Techniques Used for This Report

System in Brief

Population and Employment Trends

Population data is taken from the California Department of Finance estimates. The estimates in this report reflect population as of July 1 of each year. City and county population estimates are available at <www.dof.ca.gov/HTML/DEMOGRAP/repndat.htm#estimates>.

Employment data is taken from the California Employment Development Department (EDD) "Wages and Salary" data series. EDD estimates annual employment by industry based on reports by employers. Self-employed workers, unpaid family workers, private household workers, and individuals on unpaid leave from work are not included in the data. Because it is the number of jobs rather than workers that is reported, workers holding more than one job may be counted more than once. Employment data is published on the EDD Web site at <http://www.calmis.cahwnet.gov./htmlfile/msa.htm>.

Commute Mode Share

The US Census Bureau collects data on commute behavior including mode of travel. In 2000, the Census Bureau began a pilot program, called the American Community Survey, to collect data on an annual basis rather than a 10-year cycle. The American Community Survey collects all the information currently measured by the decennial census long form, including commute characteristics. Advantages of the American Community Survey over the decennial long form include annual updates and faster release of data. Disadvantages include a smaller sample set and potentially less-accurate results than the decennial census. However, the sample size for the American Community Survey still far surpasses any other surveys of commute behavior and thus is believed to be the most accurate information available. The American Community Survey is scheduled to begin full implementation in 2005.

Mobility: Getting Around the Bay Area

Freeway Congestion

The measure used to indicate congestion is daily vehicle hours of delay. Delay occurs when the average speed falls below 35 miles per hour for 15 minutes or more. Caltrans District 4 has collected this data every year since 1981 (except for 1985 and 1997, when budget limitations forced the district to forgo the program). Caltrans employees drive specially equipped vehicles on the freeway system during morning and evening commute hours to

collect information on average travel speeds and travel times, which is then used to calculate daily delay. Data is collected on Tuesdays, Wednesdays and Thursdays during the spring and fall of each year. Complete freeway congestion data for the Bay Area is published by Caltrans in the report series *Bay Area Freeway Congestion Data.*

Trends in Commuting

The annual Commute Profile telephone poll conducted by Rides for Bay Area Commuters, Inc. provides information on commuter behavior and the factors that influence commute decisions. It is the only region-wide, annual study of commuters' perceptions, such as whether people feel their commutes have improved or worsened over the past year. The poll, which is conducted in the spring of each year, surveys adults who are employed full-time outside the home. The size of the poll has varied over the years based on the amount of funding available. In 1998, the sample size was about 1,600 Bay Area commuters. Since 1999, the poll has included approximately 3,600 of the Bay Area's estimated 3.5 million commuters each year. The Commute Profile report includes a complete description of the survey methodology and the confidence level. Copies of the report are available from Rides for Bay Area Commuters, Inc. or can be downloaded from <http://rideshare.511.org/research>.

Selected Commute Times

It is possible to calculate the driving time between two locations from the data Caltrans District 4 collects to monitor freeway congestion (see above). Because data is available for freeway travel only, the reported commute times do not account for the time it takes to drive from one's home to the freeway or from the freeway to one's workplace. The driving times included in this report were calculated based on an 8:30 a.m. arrival at the destination cities — San Francisco, Oakland and San Jose.

MTC staff calculated the time it would take to travel by transit from the same general locations to each destination city to arrive no later than 8:30 a.m. The transit travel times were calculated from printed schedules or, where available, by using MTC's TakeTransit℠ Trip Planner (available at <http://transit.511.org>). The transit travel times are the times between transit stops or stations. Like the freeway travel times, they do not include the time it takes to get from home to the first transit stop or from the last transit stop to the workplace.

Freeway Traffic Volumes

The annual average daily traffic volume is the number of vehicles that pass by a given freeway location divided by the number of days on which vehicles were counted, including weekdays and weekends. Ideally, vehicles are counted 365 days a year; however, in practice the counting equipment may be out of service some days due to maintenance or other factors. The traffic volumes included in this report are for locations with permanent count stations. Only a small number of locations have permanent counters that provide data on a continuous basis from year to year. Caltrans collects traffic counts at other freeway and state highway locations with electronic instruments that are moved from location to location throughout the state on a seven-year cycle. Locations with these cyclic traffic counts were omitted from this report because the data does not show year-to-year trends. The complete database of traffic volumes throughout the state is available on the Caltrans Web site at <www.dot.ca.gov/hq/traffops/saferesr/trafdata/>.

Bridge Traffic Volumes

The Bay Area Toll Authority, which has administered the first dollar of the $2 toll on state-owned bridges since 1998, tracks the number of vehicles crossing each of the seven state-owned bridges. Traffic counts reflect vehicle crossings in the tolled direction for accounting purposes. The Golden Gate Bridge, Highway and Transportation District tracks this number for the Golden Gate Bridge. The average daily traffic for each bridge is the total annual traffic divided by 365 days. Data on traffic and revenue for the seven state-owned bridges is available on the Bay Area Toll Authority Web site at <www.mtc.ca.gov/bata/tolls.htm>. Data on traffic and revenue for the Golden Gate Bridge is available on the Web at <www.goldengatebridge.org/research/GGBTraffToll.html>.

Carpool Lanes — Time Savings and Usage

Caltrans District 4 collects data on carpool-lane usage and travel-time savings annually. Data on lane usage is compiled from direct observations by people situated on the side of the freeway adjacent to the carpool lanes. Travel-time savings are computed by comparing travel time in the carpool lane with that in the adjacent mixed-flow lanes during the peak morning and evening commute hours. For carpool lanes that are not congested, travel time is based on the speed limit on the freeway. For carpool lanes that are congested, Caltrans drives specially equipped "floating cars" to record travel time and speed. The same "floating car" technique is used to measure the travel time in adjacent mixed-flow lanes. Caltrans District 4 publishes a report annually with complete data on carpool-lane usage and travel-time savings. The report also includes detailed information on the hours of operation, number of people using the carpool lane compared to adjacent general purpose lanes, and violation rates. The Caltrans District 4 HOV lane reports can be found at <www.dot.ca.gov/dist4/reports.htm>.

Local Traffic

Under state law, county congestion management agencies are charged with monitoring congestion on local roadways. Two Bay Area counties, Sonoma County and Napa County, have exercised an option in the law to opt out of this requirement. The remaining seven counties monitor congestion on local roadways and publish the results at least every two years in a county congestion monitoring report. Most counties report in odd years; Alameda and Contra Costa counties report in even years. Santa Clara County has been reporting every year.

The congestion management agencies measure local roadway congestion by calculating the "level of service" on a selected set of high-priority roads during peak commute periods. Level of service describes traffic conditions based on speed and travel time, volume and capacity, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. Level of service is expressed in grades from A through F, with level of service A representing the best operating conditions and level of service F the worst. At level of service A, B and C, traffic flows smoothly and delay is minimal. This report characterizes these conditions as "uncongested." At level of service D and E, traffic flow becomes unstable, conditions characterized in this report as "moderately congested." At level of service F, traffic is stop and go, characterized in this report as "severely congested."

The level of service grade is assigned based on the delay experienced by vehicles traveling through major intersections or on average travel speeds over selected segments of local roadways. It is noteworthy that the procedures for monitoring local roadway level of service are established on a county-by-county basis. As a

result, it is more appropriate to compare the results for each county from year to year than it is to compare results across different counties. Links to congestion management agencies for counties in the Bay Area may be found on the MTC Web site at <www.mtc.ca.gov/links/lkindex.htm>.

Transit On-Time Performance

Transit operators monitor on-time performance as a measure of the quality of the service they provide. Like most data on transit operations, on-time performance is reported by fiscal year. Data is usually collected by persons who record the arrival time of individual transit vehicles at key stops. (BART's central computer system automates collection of on-time performance data.) On-time performance data is used by operators primarily as an internal management tool. When deteriorating on-time performance can be traced back to increasing roadway congestion, the data may be used to develop more realistic, revised schedules. San Francisco Muni publishes on-time performance data in its quarterly performance reports as required under Proposition E, passed by San Francisco voters in 1999.

Transit Ridership

This report uses transit boardings as a measure of ridership. A boarding refers to each time a passenger enters a transit vehicle or train station. One person may board multiple vehicles to complete a trip. Methods used to collect this ridership data include tracking transit fare receipts and hiring people to count passenger boardings. Transit operators report ridership for each fiscal year to the Federal Transit Administration for inclusion in the National Transit Database. National Transit Database publications and data can be found at <www.ntdprogram.com>. MTC summarizes transit ridership and other operating statistics for Bay Area operators in its annual report, *Statistical Summary of Bay Area Transit Operators,* which covers a rolling five-year period.

Safety

Motor Vehicle Collisions and Motor Vehicle Collisions Involving Pedestrians or Cyclists

The California Highway Patrol (CHP) maintains the most complete data on motor vehicle collisions, including those that involve pedestrians or cyclists. The database, called Statewide Integrated Traffic Records System, includes injuries and fatalities resulting from all collisions reported to local law enforcement as well as the Highway Patrol. The Highway Patrol publishes the series *Annual Report of Fatal and Injury Motor Vehicle Traffic Collisions,* which includes summary statistics by county and for the entire state. This is available on the Web at <www.chp.ca.gov/html/publications.html>. Data at a less aggregated level can be requested from the California Highway Patrol.

State of Repair

State Highway Pavement Conditions

Caltrans conducts an annual survey of the pavement condition on all state-owned roads in California. Roads are inspected visually for potholes and cracks that indicate damage to the road structure lying beneath the pavement. In addition, Caltrans measures the comfort of the ride on the pavement using roving vehicles that measure the smoothness of the road. Because road structure and ride quality are not always positively correlated — for example a road with poor ride quality may not have any structural damage — both
factors are considered in determining which roads are in need of repair. The results of the pavement condition survey are published by Caltrans in the *State of the Pavement* report series published by the Caltrans Division of Maintenance and available at http://www.dot.ca.gov/hq/maint/roadway.htm. Pavement condition data is reported by calendar year.

Local Roadway Pavement Conditions

Most Bay Area jurisdictions use MTC's Pavement Management System, or an equivalent system, to track conditions of streets and roads and develop cost-effective repair schedules. MTC's Pavement Management System measures pavement conditions according to a pavement condition index (PCI) that ranges from 0 to 100, where 100 is the best possible score. Surveyors record the type and severity of pavement distresses, such as cracking, weathering and patching through physical inspections. This information is then entered into the Pavement Management System to calculate the PCI.

The characterization of pavement conditions in 2003 is based on the most recent data submitted to MTC by local jurisdictions. For those jurisdictions (55 in number) that had their last inspections done in 2003, the PCI scores were considered current. For the remaining jurisdictions — those whose most recent inspections were done in years prior to 2003 — MTC staff used its Pavement Management System software to project PCI scores forward to 2003, relying on estimates (provided by individual jurisdictions or by the State Controller's Office) of revenue available to each jurisdiction for local roadway maintenance.

Transit Service Calls

A service call occurs any time transit service is disrupted because a transit vehicle cannot complete a scheduled trip or cannot start the next scheduled trip. Transit operators report total service calls to the Federal Transit Administration as part of the National Transit Database. Operators also report the miles of service provided annually (annual revenue service miles) as part of the National Transit Database. MTC used these data to calculate the total number of service calls per million miles of service provided by the seven largest bus and rail operators.

Airports and Seaports

Airports — Passenger and Cargo Volumes

Statistics on airport passengers are based on information supplied to the airports from the airline carriers' computer reservation systems. These numbers are in turn used to collect landing fees from the carriers and for planning efforts at the airports. Statistics on air cargo are reported by private carriers to the airports. Private carriers (e.g., Federal Express, UPS) submit tonnage reports to the airports for planning and billing purposes.

Seaports — Marine Cargo Volumes

Private operators at the ports collect data on marine cargo. For bulk goods, tonnage is tracked and used by the ports to collect fees. For containers, fees are paid to the port based on the contents of the containers and the number of total containers is tracked for planning purposes.

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